


EXHIBIT 4

Central Business District (CBD) Tolling Program Environmental Assessment

Chapter 8, Historic and Cultural Resources

ADDRESS/NAME	DESCRIPTION	STATUS & NRHP CRITERIA ^{1, 2}	CHANGES	EFFECT
Downtown Athletic Club Building	Constructed in 1930 as a skyscraper clubhouse, the Downtown Athletic Club was designed by Starrett & Van Vleck. The Art Deco-style building features irregular massing and mottled orange brick cladding.	<ul style="list-style-type: none"> NYCL 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block 	No effect
21 West Street	This 32-story, Art Deco-style skyscraper was designed by Starrett & Van Vleck and constructed from 1929 to 1931; the building is faced with tan and dark-brown brick.	<ul style="list-style-type: none"> NRHP-Listed, A & C NYCL 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block 	No effect
U.S. Post Office – Morgan General Mail Facility	Constructed in 1933, the Morgan General Mail Facility is a 6- to 10-story building built in the Art Deco style. The building's exterior is faced in limestone block on the lower levels with brick above.	<ul style="list-style-type: none"> NRHP-Eligible, A & C NYCL-Eligible 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalks 	No effect
406-426 West 31st Street ³	Constructed in 1914, the 16-story building is symmetrically fenestrated and faced in brick.	<ul style="list-style-type: none"> NRHP-Eligible 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on adjacent sidewalk 	No effect
U.S. General Post Office	The 6- and 10-story, Art Deco-style building was built in 1933 under the design of architect James A. Wetmore. The building is faced in granite ashlar.	<ul style="list-style-type: none"> NRHP-Listed, A & C NYCL 	<ul style="list-style-type: none"> No physical changes No changes to immediate setting 	No effect
Pennsylvania Railroad North River Tunnel (used by Amtrak and NJ TRANSIT)	Built between 1904 and 1908, the North River Tunnel carries train traffic in two tubes beneath the Hudson River between Penn Station New York and New Jersey.	<ul style="list-style-type: none"> NRHP-Eligible, A & C 	<ul style="list-style-type: none"> No physical changes No changes to immediate setting 	No effect
St. Michael's Roman Catholic Church Complex ²	Completed in 1907, the complex includes a Romanesque-style church, school, convent, and rectory. The complex was designed by Napoleon LeBrun & Sons.	<ul style="list-style-type: none"> NRHP-Eligible NYCL-Eligible 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk 	No effect
Master Printers Building ²	Completed in 1927, the 19-story building was designed by architects Parker & Shaffer and clad in tan brick.	<ul style="list-style-type: none"> NRHP-Eligible 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block 	No effect
Webster Apartments ²	The C-shaped building was constructed in 1923. The Neo-Classical style building rises 13 stories and is clad in red brick.	<ul style="list-style-type: none"> NRHP-Eligible 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk 	No effect

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Does not account for impact on pedestrian access for those who are disabled or young children.

Central Business District (CBD) Tolling Program Environmental Assessment

Chapter 8, Historic and Cultural Resources

ADDRESS/NAME	DESCRIPTION	STATUS & NRHP CRITERIA ^{1, 2}	CHANGES	EFFECT
Harding Building/ Garment Center Historic District ⁴	Designed by architect Chester J. Storm and constructed from 1926 to 1927, the 17-story building contributes to the Garment Center Historic District, which includes industrial, residential, religious, and government buildings dating from 1858 to 1958.	▪ NRHP-Listed, A & C	<ul style="list-style-type: none"> ▪ No physical changes ▪ No changes to immediate setting 	No effect
Paddy's Market Historic District	Ninth Avenue between West 38th and West 42nd Streets was the location of one of the best-known pushcart markets, located beneath the former rail viaduct. The buildings in this potential historic district are primarily late 19th century tenements with many retaining intact storefronts that reflect the history of the market.	▪ NRHP-Eligible, A & C	<ul style="list-style-type: none"> ▪ Minor changes – installation of two new poles with mast arms with tolling equipment on sidewalk ▪ Minor change to setting 	No adverse effect
Former Pinehill Crystal Water Company ²	The 6-story building, constructed in 1911, is faced in tan brick with stone detailing.	▪ NRHP-Eligible	<ul style="list-style-type: none"> ▪ No physical changes ▪ No changes to immediate setting 	No effect
Hill Building ²	Constructed in 1914, the 14-story building is designed in the Neo-Classical style. The building is clad in terra-cotta and brick.	▪ NRHP-Eligible	<ul style="list-style-type: none"> ▪ No physical changes ▪ No changes to immediate setting 	No effect
500 West 37th Street ²	The 6-story building was constructed in 1890. Symmetrically fenestrated, the building is faced in red brick with a stone façade on the ground floor along Tenth Avenue.	▪ NRHP-Eligible	<ul style="list-style-type: none"> ▪ No physical changes ▪ No changes to immediate setting 	No effect
Underhill Building ²	Designed by Hill & Stout, the 13-story building was constructed in 1915. The building is clad in red brick with decorative glazed terra-cotta.	▪ NRHP-Eligible	<ul style="list-style-type: none"> ▪ No physical changes ▪ No changes to immediate setting 	No effect
408 West 39th Street ²	The 5-story tenement building comprises details from the Neo-Grec and Romanesque Revival styles. The ground floor is faced with brownstone with an intact cornice.	▪ NRHP-Eligible	<ul style="list-style-type: none"> ▪ No physical changes ▪ Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk 	No effect
523-539 Ninth Avenue ²	The nine, 4-story tenement buildings along Ninth Avenue are faced in brick. The buildings' cornices are intact with stone lintels and windowsills.	▪ NRHP-Eligible	<ul style="list-style-type: none"> ▪ No physical changes ▪ 1 minor change to setting – new pole with mast arm with tolling equipment on same block 	No effect

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Does not account for impact on pedestrian access for disabled or young children.

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ADDRESS/NAME	DESCRIPTION	STATUS & NRHP CRITERIA ^{1, 2}	CHANGES	EFFECT
Lincoln Tunnel	Completed after the Holland Tunnel, the Lincoln Tunnel has three tubes for vehicles to travel below the Hudson River between Manhattan and New Jersey. The north tube was completed in 1945, the center tube in 1937, and the south tube in 1957.	<ul style="list-style-type: none"> NRHP-Eligible, A & C 	<ul style="list-style-type: none"> Minor changes – installation of tolling equipment at the three portal structures 	No adverse effect
St. Raphael Roman Catholic Church and Rectory ²	The church and rectory are designed in the Gothic Revival style with stone and red brick.	<ul style="list-style-type: none"> NRHP-Eligible 	<ul style="list-style-type: none"> No physical changes 1st minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block 	No effect
500-506 West 42nd Street ²	The two, 6-story tenement buildings are clad in tan brick. A metal balcony runs just below the 6th-floor windows.	<ul style="list-style-type: none"> NRHP-Eligible 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk 	No effect
McGraw-Hill Publishing Company Building	Designed by architect Raymond Hood, the 33-story building was constructed in 1930. The building is faced in panels that are painted a deep blue-green and includes horizontal bands of windows.	<ul style="list-style-type: none"> NRHP-Listed, A & C NHL NYCL 	<ul style="list-style-type: none"> No physical changes No changes to immediate setting 	No effect
The High Line	The 1.45-mile-long elevated steel and concrete viaduct structure was built by the New York Central Railroad to replace its on-grade Tenth Avenue tracks. It runs roughly parallel to Tenth Avenue between West 34th and Gansevoort Streets.	<ul style="list-style-type: none"> NRHP-Eligible, A 	<ul style="list-style-type: none"> 2nd minor changes – installation of tolling equipment on underside of viaduct structure 	No adverse effect
Former French Hospital ²	The 13-story building was built 1927–1928 by the French Benevolent Society as the New York City French Hospital. The building is clad in brick with a 2-story stone base.	<ul style="list-style-type: none"> NRHP-Eligible 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block 	No effect
Lithuanian Alliance of America	The 4-story Neo-Grec style building was built circa 1876 as a single-family residence by architect and real estate developer Edward E. Ashley. The building was purchased by the Lithuanian Alliance of America in 1910.	<ul style="list-style-type: none"> NRHP-Eligible, A 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block 	No effect
Hotel Irwin	The 11-story Hotel Irwin opened in 1925 as an apartment building for unmarried women. The building was originally planned in 1914 for use as a hotel for women by Ms. Richard Irwin, but World War 1 delayed construction. The Classical Revival-style brick building was designed by Jackson, Rosencranz, and Waterbury.	<ul style="list-style-type: none"> NRHP-Eligible, A 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on sidewalk on same block 	No effect

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Does not account for impact on pedestrian access for disabled or young children.



Number: 2 Author: BPC Resident Subject: Highlight Date: 6/12/23, 11:49:47 AM

Does not account for impact on pedestrian access due to increased congestion, nor does it account for increased air pollution due to extra 200 cars/ hour.

ADDRESS/NAME	DESCRIPTION	STATUS & NRHP CRITERIA ^{1, 2}	CHANGES	EFFECT
Engine Co. 34 Firehouse	The 2-story brick firehouse was designed by Hubert J. Treacy and built in 1937. The firehouse is a representative example of the two-company/two-vehicular entrance type the New York City Fire Department began using at the turn of the 20th century.	<ul style="list-style-type: none"> NRHP-Eligible, A & C 	<ul style="list-style-type: none"> No physical changes No changes to immediate setting 	No effect
P.S. 191 Hudson Honors School	The 5-story building was built in 1955 and designed by William Gehron. The building has an L-shaped plan and minimized ornamentation.	<ul style="list-style-type: none"> NRHP-Eligible, C 	<ul style="list-style-type: none"> No physical changes Minor change to setting – new pole with mast arm with tolling equipment on adjacent sidewalk 	No effect
Cova Building	The 12-story office building, built between 1922 and 1924 by Alexander Cohen, has terra-cotta ornaments and decorative metal panels.	<ul style="list-style-type: none"> NRHP-Eligible, C 	<ul style="list-style-type: none"> No physical changes Minor change to setting – two new poles with mast arm with tolling equipment on sidewalks on same block 	No effect
59th Street-Columbus Circle Subway Station	Completed in 1904, the station is one of the first original Interborough Rapid Transit subway stations to be completed. The station has Beaux Arts painting and decoration.	<ul style="list-style-type: none"> NRHP-Listed, A & C NYCL Interior Landmark 	<ul style="list-style-type: none"> No physical changes No changes to setting 	No effect
Central Park ⁵	Central Park is the first large-scale public park in the nation. Created from 1857 to 1866, the park was designed by Frederick Law Olmsted and Calvert Vaux.	<ul style="list-style-type: none"> NRHP-Listed, C NYC Scenic Landmark NHL 	<ul style="list-style-type: none"> Minor physical changes: <ul style="list-style-type: none"> Replacement of four existing poles with new poles with tolling equipment at three detection locations on the interior park roads (note, access to Central Park interior roads is restricted to authorized vehicles only) Replacement of existing light pole with new pole with tolling equipment on Fifth Avenue sidewalk Installation of a new pole with mast arm on Central Park West sidewalk. Minor changes to setting 	No adverse effect
Upper East Side Historic District (NRHP)	This district is defined by mansions, apartment houses, and row houses in a range of architectural styles, dating from 1862 to 1938.	<ul style="list-style-type: none"> NRHP-Listed, A & C 	<ul style="list-style-type: none"> Minor changes – installation of one new pole with mast arm with tolling equipment on sidewalk 	No adverse effect

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Does not account for impact of increased air pollution due to congestion for children in school.

9.3 ENVIRONMENTAL CONSEQUENCES

The proposed tolling infrastructure, tolling system equipment, and signage associated with the CBD Tolling Alternative would be similar to existing infrastructure and signage present along the roadways throughout the Manhattan CBD and nearby areas. The tolling infrastructure would include the following:

- Poles and mast arms similar to those used for streetlights and traffic lights today
- Cameras, detectors, and other equipment mounted from tolling infrastructure
- Signage similar in size and character to signs already present throughout Manhattan

The poles for the CBD Tolling Alternative would typically be at locations where standard poles are currently installed or would replace existing poles with new poles that are up to about 20 feet from the existing poles.

The tolling infrastructure and tolling system equipment has been designed to minimize its visual impact, by using existing infrastructure as much as practicable and coordinating the appearance of new tolling infrastructure and tolling system equipment with the existing street furniture palette. The proposed tolling system equipment would be clustered into single enclosures to minimize the visual impact. The cameras included in the array of tolling system equipment would use infrared illumination at night to allow images of license plates to be collected without any need for visible light.

9.4 CONCLUSION

For the various viewer groups in the area of visual effect—including residential, recreational, institutional, civic, retail, and commercial “neighbors” (i.e., those who may have a view of the Project), and commuting, touring, and shipping “travelers” (i.e., those who would use the affected roadways)—the visual changes introduced by the CBD Tolling Alternative would be minimal in the context of the urban landscape and are not likely to result in a change in visual quality as perceived by these viewers. Therefore, the CBD Tolling Alternative would have a neutral effect on viewer groups. **Table 9-1** summarizes the effects of the Project.

Table 9-1. Summary of Effects of the CBD Tolling Alternative on Visual Resources

SUMMARY OF EFFECTS	EFFECT FOR ALL TOLLING SCENARIOS	POTENTIAL ADVERSE EFFECT	MITIGATION AND ENHANCEMENTS
Changes in visual environment resulting from new tolling infrastructure and tolling system equipment	Infrastructure and equipment would be similar in form to streetlight poles, sign poles, or similar structures already in use throughout New York City. Cameras included in the array of tolling system equipment would use infrared illumination at night to allow images of license plates to be collected without any need for visible light. The Project would have a neutral effect on viewer groups and no adverse effect on visual resources.	No	No mitigation needed. No adverse effects.

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This "area of visual effect" analysis does not account for the potential removal items that benefit the community (like CitiBikes, boulders, planters, garbage containers) from the streets due to the Tolling Alternative.

10 Air Quality

10.1 INTRODUCTION

This chapter assesses the potential effect of implementing the CBD Tolling Alternative on air quality, air pollution, and greenhouse gas (GHG) emissions. It also summarizes the Project's Transportation Conformity Determination.

Air pollution is a general term that refers to one or more chemical substances that degrade the quality of the atmosphere. Individual air pollutants and air toxics can degrade the atmosphere by reducing visibility; they can also damage property, reduce the productivity or vigor of crops or natural vegetation, and harm human and/or animal health. Air quality is the term used to describe the level of pollution in the atmosphere and is usually compared to a regulated set of standards established by the U.S. Environmental Protection Agency (USEPA).

10.1.1 Context

The regional study area for the traffic analyses includes 28 counties in New York, New Jersey, and Connecticut.

Most of the regional study area is within the New York-N. New Jersey-Long Island nonattainment area¹ for the 2008 and 2015 ozone (O₃) National Ambient Air Quality Standards (NAAQS), and many counties, or portions thereof, are maintenance areas (previously nonattainment areas) for carbon monoxide (CO) and particulate matter (PM_{2.5} and PM₁₀) NAAQS. Furthermore, New York County, which includes the Manhattan CBD, is a nonattainment area for PM₁₀. **Appendix 10A, "Air Quality: Description of Pollutants and MOVES Modeling Files,"** provides a full description of pollutants. According to monitored air quality data collected by USEPA around New York City and New Jersey, there were several exceedances of the O₃ standard, but no exceedances of any of the other criteria pollutants.

According to the New York City Community Air Survey (NYCCAS), annual average levels of four key pollutants (PM_{2.5}, nitrogen dioxide [NO₂], nitric oxide, and black carbon) decreased citywide—from 33 to 52 percent—between 2009 and 2019. Air quality has improved substantially since the City of New York required building owners to convert to cleaner heating oils in 2015.

10.1.2 Regulations

¹The Clean Air Act (CAA) and the Final Transportation Conformity Rule (40 CFR Parts 51 and 93) direct USEPA to implement environmental policies and regulations that will ensure acceptable levels of air quality.

¹ A geographic area that meets or does better than the standard(s) is called an attainment area, while areas that do not meet the standard(s) are referred to as nonattainment or maintenance areas.

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Require clarification and supportive data to demonstrate how an increase of 200 cars/hour in the CBD increase air quality.

The CAA and the Final Transportation Conformity Rule affect the funding and approval of proposed transportation projects. According to CAA Title I, Section 176 (c) 2: “No Federal agency may approve, accept or fund any transportation plan, program or project unless such plan, program or project has been found to conform to any applicable State Implementation Plan in effect under this act.”

¹According to Section 176(c)2(A) of the CAA, conformity to an implementation plan means not causing any new or reducing the severity and number of any existing violations of the NAAQS and achieving expeditious attainment of such standards, and that such activities will not:

- Cause or contribute to any new violation of any NAAQS in any area;
- Increase the frequency or severity of any existing violation of any NAAQS in any area; or
- Delay timely attainment of any NAAQS or any required interim emission reductions or other milestones in any area.

10.1.3 National and State Ambient Air Quality Standards

As required by the CAA, NAAQS have been established for six major air pollutants, known as criteria pollutants: CO, NO₂, O₃, PM_{2.5} and PM₁₀, sulfur dioxide (SO₂), and lead (Pb). **Table 10-1** summarizes the Federal standards. “Primary” standards provide public health protection, including protecting the health of “sensitive” populations such as asthmatics, children, and the elderly, while “secondary” standards are intended to protect the nation’s welfare, accounting for ²or pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of general welfare.

10.1.4 Attainment Status

Section 107 of the CAA requires that USEPA publish a list of all geographic areas in compliance with the NAAQS and those not attaining the NAAQS. Areas not in NAAQS compliance are deemed nonattainment areas. Areas that have insufficient data to support a determination are deemed “unclassified” and are treated as being attainment areas until proven otherwise. Maintenance areas are areas that were previously designated as nonattainment for a pollutant but have since demonstrated compliance with the NAAQS for that pollutant. An area’s designation is based on the data collected by the state monitoring network on a pollutant-by-pollutant basis.

To provide background on existing air quality conditions in the Project’s 28-county regional study area, **Table 10-2** lists the counties or portions thereof that are currently attainment, nonattainment, or maintenance areas for the following criteria pollutants: CO, O₃, PM_{2.5} and PM₁₀, and SO₂. All counties in the study area are in attainment for Pb and NO₂; as such, these pollutants have not been included in the table.

The majority of the regional study area is classified nonattainment for the 2008 and 2015 O₃ NAAQS, while many counties, or portions thereof, are maintenance areas for CO and PM_{2.5}.

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A full environmental impact study must be completed.



Number: 2 Author: BPC Resident Subject: Highlight Date: 6/12/23, 11:49:47 AM

Battery Park City Schools along West Street and Hugh L Carey Tunnel were not considered. We are requesting further environmental studies to ensure the health and safety of the students from 0-12 Grade. A more in depth environmental impact analysis must be completed to clarify the effects of increased congestion/idling on air quality near schools, like PS89 (playground right along West Side Highway) and Stuyvesant High School.

Table 10-1. National Ambient Air Quality Standards

POLLUTANT		PRIMARY/ SECONDARY	AVERAGING TIME	LEVEL	FORM
Carbon Monoxide (CO)		Primary	8-hour	9 parts per million (ppm)	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead (Pb)		Primary and Secondary	Rolling 3-month average	0.15 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$) ⁽¹⁾	Not to be exceeded
Nitrogen Dioxide (NO ₂)		Primary	1-hour	100 parts per billion (ppb)	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Primary and Secondary	Annual	53 ppb ⁽²⁾	Annual Mean
Ozone (O ₃)		Primary and Secondary	8-hour	0.070 ppm ⁽³⁾	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particulate Matter	PM _{2.5}	Primary	Annual	12 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
		Secondary	Annual	15 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
		Primary and Secondary	24-hour	35 $\mu\text{g}/\text{m}^3$	98th percentile, averaged over 3 years
	PM ₁₀	Primary and Secondary	24-hour	150 $\mu\text{g}/\text{m}^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO ₂)		Primary	1-hour	75 ppb ⁽⁴⁾	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Source: U.S. Environmental Protection Agency, Office of Air and Radiation, <https://www.epa.gov/criteria-air-pollutants/naaqs-table>;

New York State Department of Environmental Conservation (NYSDEC), <http://www.dec.ny.gov/chemical/8406.html>.

Notes:

- ⁽¹⁾ Final rule signed October 15, 2008. The 1978 Pb standard (1.5 $\mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 year, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- ⁽²⁾ The official level of the annual NO₂ standard is 0.053 parts per million (ppm), equal to 53 parts per billion (ppb), which is shown here for the purpose of clearer comparison to the 1-hour standard.
- ⁽³⁾ Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O₃ standards additionally remain in effect in some areas. Revocation of the previous (2008) O₃ standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.
- ⁽⁴⁾ The previous SO₂ standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which implementation plans providing for attainment of the current (2010) standard have not been submitted and approved and which is designated nonattainment under the previous SO₂ standards or is not meeting the requirements of a State Implementation Plan (SIP) call under the previous SO₂ standards (40 CFR 50.4(3)). A SIP call is a U.S. Environmental Protection Agency action requiring a state to resubmit all or part of its SIP to demonstrate attainment of the required NAAQS.

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-  Number: 1 Author: BPC Resident Subject: Highlight Date: 6/12/23, 11:49:47 AM
Does this limit still hold with the increase of 200 cars/ hour in the CBD? Do these limits still hold with updated car usage post Covid-19?
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-  Number: 2 Author: BPC Resident Subject: Highlight Date: 6/12/23, 11:49:47 AM
We require clarification as to what does once per year means (does once per year last several days, hours, minutes?) and how even once per year is acceptable.
-
-  Number: 3 Author: BPC Resident Subject: Highlight Date: 6/12/23, 11:49:47 AM
We require clarification as to what does once per year means (does once per year last several days, hours, minutes?) and how even once per year is acceptable. These conclusions must be updated with new data for vehicle usage post Covid-19.

Table 10-2. Current Air Quality Attainment Status

STATE	COUNTY	CARBON MONOXIDE	OZONE	PARTICULATE MATTER (PM _{2.5})	PARTICULATE MATTER (PM ₁₀)	SULFUR DIOXIDE
New York	Bronx	— Maintenance —	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Dutchess	Attainment	Attainment	Attainment	Attainment	Attainment
	Kings	— Maintenance —	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Nassau	— Maintenance —	* Nonattainment *	— Maintenance —	Attainment	Attainment
	New York	— Maintenance —	1 Nonattainment *	— Maintenance —	2 Nonattainment ¹ *	Attainment
	Orange	Attainment	Attainment	— Maintenance —	Attainment	Attainment
	Putnam	Attainment	Attainment	Attainment	Attainment	Attainment
	Queens	— Maintenance —	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Richmond	— Maintenance —	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Rockland	Attainment	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Suffolk	Attainment	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Westchester	— Maintenance —	* Nonattainment *	— Maintenance —	Attainment	Attainment
New Jersey	Bergen	— Maintenance —	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Essex	— Maintenance —	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Hudson	— Maintenance —	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Hunterdon	Attainment	* Nonattainment *	Attainment	Attainment	Attainment
	Mercer	Attainment	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Middlesex	Attainment	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Monmouth	Attainment	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Morris	Attainment	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Ocean	Attainment	* Nonattainment *	Attainment	Attainment	Attainment
	Passaic	— Maintenance —	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Somerset	Attainment	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Sussex	Attainment	* Nonattainment *	Attainment	Attainment	Attainment
	Union	— Maintenance —	* Nonattainment *	— Maintenance —	Attainment	Attainment
	Warren	Attainment	* Nonattainment *	Attainment	Attainment	* Nonattainment *
Connecticut	Fairfield	Attainment	* Nonattainment *	— Maintenance —	Attainment	Attainment
	New Haven	Attainment	* Nonattainment *	— Maintenance —	— Maintenance —	Attainment

Source: U.S. Environmental Protection Agency Green Book.

Note: As per 40 CFR Part 81.333, this PM₁₀ designation applied only to the annual form of the PM₁₀ NAAQS. The annual PM₁₀ NAAQS was revoked on October 17, 2006.

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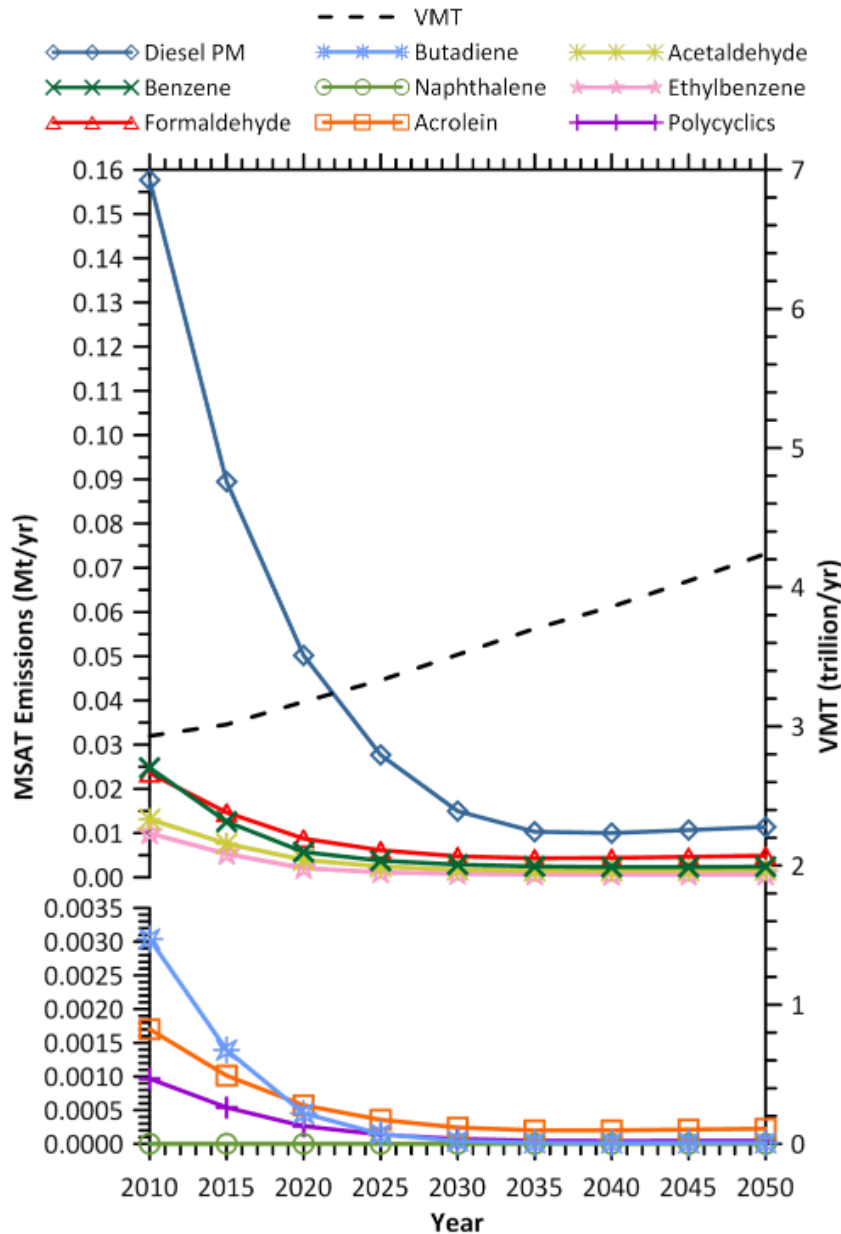
Require additional analysis as to how the addition of 200 cars/ hour into the CBD can improve air quality when Ozone and Particulate Matter status has not been attained.



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Require additional analysis as to how the addition of 200 cars/ hour into the CBD can improve air quality when Ozone and Particulate Matter status has not been attained.

Figure 10-1. FHWA Projected National MSAT Emission Trends (2010 to 2050) using EPA's MOVES2014a Model for Vehicles Operating on Roadways



Source: FHWA.

Because of the unique properties of the Project (affecting a widespread area, located in proximity to populated areas), the Project has been analyzed as a Tier 3 project with higher potential MSAT effects, as defined by FHWA's *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*. Thus, a quantitative MSAT emissions analysis was conducted for the Project. The MSAT analysis was conducted on a subregional basis to capture the overall changes in MSAT emissions in each county.¹ Because of the Project's unique scope and the extent of its impact on roadways of all types throughout the region, the MSAT emissions analysis was conducted for the 12-county region (see Table 10-3 and Section 10.1.7.1).

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The project does not account for the effects on the specific neighborhoods within New York County. For example, Battery Park City has a large number of residents who are disabled due to long term health issues resulting from 9/11/2001. How can the "nonattained" status of Ozone and Particulate Matter in New York County be compared to areas where they have fully attained US EPA Air Quality Status?

As stated in FHWA's *Frequently Asked Questions (FAQ) Conducting Quantitative MSAT Analysis for FHWA NEPA Documents*,⁶ Project-specific knowledge and consideration of local circumstances were considered in the overall MSAT analysis approach. In order to potentially focus on only those segments with the greatest benefits and effects, changes in annual average daily traffic (AADT) were screened (plus or minus 5 percent) across the 12-county region where the largest benefits and effects would be expected (**Appendix 10D, "Changes in Annual Average Daily Traffic (AADT)"**). Few roadway segments met these criteria, despite the extensive network and multiple types of roadways within the region. Thus, the quantitative MSAT emissions analysis included the entire traffic network of the 12-county study area. This approach is consistent with the regional pollutant burden and GHG analysis and provides a common basis for comparison across all analyses. In this chapter, maps and changes display VMT, which is the sum of the AADT multiplied by the individual link length.

10.1.5.1 Incomplete or Unavailable Information for Project-Specific Mobile Source Air Toxics Health Impacts Analysis

1 FHWA's view, information is incomplete or unavailable to credibly predict a project-specific health impact due to changes in MSAT emissions associated with a proposed set of alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

USEPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the CAA and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. USEPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects."⁷ Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). A number of HEI studies are summarized in Appendix D of FHWA's *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*.⁸ Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations⁹ or in the future as vehicle emissions substantially decrease.

⁶ https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/moves_msat_faq.cfm.

⁷ U.S. Environmental Protection Agency, <https://www.epa.gov/iris>.

⁸ https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/page04.cfm.

⁹ HEI Special Report 16, <https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects>.

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How can this Proposal move forward with the FHWA's view that information is incomplete or unavailable to predict project-specific health impact due to changes in MSAT emissions associated with the proposed set of alternatives? A full Environmental Impact Analysis must be completed and it must be incorporated into the proposal before the project could move forward.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts—each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of alternatives. These difficulties are magnified for lifetime (i.e., 70-year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI.¹⁰ As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. USEPA states that with respect to diesel engine exhaust, ¹the absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk.”¹¹

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by USEPA as provided by the CAA to determine whether more stringent controls are required to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires USEPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld USEPA’s approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.¹²

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties

¹⁰ HEI Special Report 16, <https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects>.

¹¹ U.S. Environmental Protection Agency. IRIS database, Diesel Engine Exhaust, Section II.C. https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0642.htm#quainhal.

¹² [https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/\\$file/07-1053-1120274.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/$file/07-1053-1120274.pdf).

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Insufficient environmental impact analysis: Just because there is a lack of data on the air dose-response relationship, does not indicate that it makes sense to move forward with the proposed project. This Project should require additional analysis and collection of data to determine the impact of increased congestion on various MSATs. Data from areas of the Bronx near tolling sites could be used as a potential comparison. <https://www.westmont.edu/sites/default/files/2021-08/Jovan%20Gonzalez.pdf>

associated with predicting the impacts.¹³ Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against a project's benefits—such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response—that are better suited for quantitative analysis.

10.1.6 Climate Change and Greenhouse Gases

Although no national standards, criteria, or thresholds are in effect for GHGs, their role in climate change is of important national and global concern. While Earth has gone through many natural changes in climate in its history, there is general agreement that Earth's climate is currently changing at an accelerated rate and will continue to do so for the foreseeable future. Anthropogenic (human-caused) GHG emissions contribute to this process.¹³ Carbon dioxide (CO₂) makes up the largest component of these GHG emissions. Other prominent transportation GHGs include methane (CH₄) and nitrous oxide (N₂O).

There are many types of GHGs, and each GHG affects global warming differently. As a result, the Global Warming Potential (GWP) metric was developed to allow comparisons of the global warming impacts of different GHGs. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period, relative to the emissions of 1 ton of CO₂. The larger the GWP, the more that a given gas warms Earth compared to CO₂ over that period. The time period used for GWPs is typically 100 years. GWPs provide the following common units of measure, allowing analysts to sum emission estimates of different gases (e.g., to compile a national GHG inventory) for comparison and to identify reduction opportunities:


- CO₂, by definition, has a GWP of 1 regardless of the period used. CO₂ remains in the atmosphere for a long time. CO₂ emissions cause increases in atmospheric CO₂ concentrations that will last thousands of years.
- CH₄ has a GWP 25 times that of CO₂ for a 100-year period. CH₄ emitted today lasts about a decade, which is a shorter period than CO₂. However, CH₄ absorbs much more energy than CO₂. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP. The CH₄ GWP also accounts for indirect effects, such as the fact that CH₄ is a precursor to O₃, and O₃ is itself a GHG.
- N₂O has a GWP 298 times that of CO₂ for a 100-year period. N₂O emitted today remains in the atmosphere for more than 100 years.

GHGs are reported in CO₂ Equivalents (CO₂e), which is a combined measure of GHG emissions weighted according to the GWP of each gas, relative to CO₂. CO₂e is calculated within USEPA's Motor Vehicle Emission Simulator (MOVES2014b) model from CO₂, N₂O, and CH₄ mass emissions according to the following equation:

$$CO_2e = CO_2 \times GWP_{CO_2} + CH_4 \times GWP_{CH_4} + N_2O \times GWP_{N_2O}$$

¹³ Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Avery, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 996 pp. <https://www.ipcc.ch/report/ar4/wg1/>.

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Insufficient analysis of traffic congestion, accident rates, fatalities, and access for emergency response.
Additional analysis is needed.

10.1.7 Methodology

Air quality mesoscale, MSAT, and GHG analyses were conducted to determine how the Project would affect total mobile source emissions. Air quality was also analyzed on a local (microscale) level to evaluate potential CO and PM impacts. The mesoscale analysis was conducted to show the differences between the No Action Alternative and the CBD Tolling Alternative, whereas the local analysis demonstrated that the hot-spot requirements are satisfied for Project-level conformity per the CAA as well as for NEPA.

Analyses were conducted for the estimated time of completion (2023) and future analysis year (2045). It should be noted that the year 2023 No Action Alternative is also representative of existing conditions, as the Project will be implemented in a relatively short time period.

10.1.7.1 Mesoscale, MSAT, and GHG Analysis

USEPA's emission model, MOVES2014b, was used to estimate the mobile source emission factors for the mesoscale, MSAT, and GHG analyses. MOVES2014b provides great flexibility to capture the influence of time of day, car and bus/truck activity, vehicle speeds, and seasonal weather effects on emission rates from vehicles. MOVES2014b calculates emission-related parameters, such as total mass emissions and vehicle activity (hours operated and miles traveled). From this output, emission rates (e.g., grams/vehicle-miles for moving vehicles or grams/vehicle-hours for idling vehicles) can be determined for a variety of vehicle activities.

MOVES2014b requires site-specific input data for traffic volumes, vehicle types, fuel parameters, age distribution, and other inputs. By using site-specific data, the emission results reflect the traffic characteristics of the roadways affected by the Project. **Appendix 10A, "Air Quality: Description of Pollutants and MOVES Modeling Files,"** provides electronic versions of all the MOVES modeling conducted for the Project.¹⁴

The regional study area for the Project includes 28 counties in the New York City region (for more information on the 28-county regional study area, see **Chapter 3, "Environmental Analysis Framework"**).

These 28 counties represent the main catchment area for trips to and from the Manhattan CBD and therefore the area where VMT would change as a result of the CBD Tolling Alternative.

Based on the methodology used to identify the most concentrated areas of change, the following 12 New York and New Jersey counties were used for the air quality mesoscale, MSAT, and GHG analyses for the Project:

- New York City:
 - Bronx
 - Kings (Brooklyn)
 - New York (Manhattan) / Manhattan CBD
 - Queens
 - Richmond (Staten Island)

¹⁴ Located at <https://new.mta.info/project/CBDTP/environmental-assessment/>

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Unequal comparison of the 28 counties who could have travelers in the CBD: How can these 12 counties analyzed be compared equally to the actual Manhattan CBD? Data skewed by the fact that it does not highlight the disproportionate effect on those living within the CBD.

Table 10-3. Comparison of County-Level Vehicle-Miles Traveled in the Regional Study Area, No Action Alternative and CBD Tolling Alternative (Tolling Scenario A, Years 2023 and 2045)

COUNTY	2023 DAILY VEHICLE-MILES TRAVELED			2045 DAILY VEHICLE-MILES TRAVELED		
	No Action Alternative	CBD Tolling Alternative (Tolling Scenario A)	% Difference	No Action Alternative	CBD Tolling Alternative (Tolling Scenario A)	% Difference
New York City						
Bronx, NY	7,590,398	7,600,486	0.13%	8,178,443	8,179,258	0.01%
Kings (Brooklyn), NY	10,015,002	9,962,630	-0.52%	10,482,095	10,429,946	-0.50%
1 New York (Manhattan), NY	7,128,128	6,794,749	-4.68%	7,560,139	7,230,456	-4.36%
Queens, NY	18,410,148	18,313,242	-0.53%	19,368,110	19,229,630	-0.71%
Richmond (Staten Island), NY	3,986,457	4,071,055	2.12%	4,158,480	4,235,660	1.86%
Long Island						
Nassau, NY	19,687,535	19,698,668	0.06%	21,724,946	21,682,338	-0.20%
Suffolk, NY	21,898,009	21,910,738	0.06%	25,088,580	25,069,954	-0.07%
New York Counties North of New York City						
Dutchess, NY	5,114,706	5,114,150	-0.01%	5,303,106	5,298,706	-0.08%
Orange, NY	8,064,737	8,042,718	-0.27%	8,861,047	8,834,459	-0.30%
Putnam, NY	2,029,067	2,030,526	0.07%	2,239,945	2,226,281	-0.61%
Rockland, NY	4,772,318	4,762,333	-0.21%	5,679,602	5,661,212	-0.32%
Westchester, NY	13,489,991	13,451,007	-0.29%	15,541,871	15,471,203	-0.45%
NEW YORK STATE TOTAL	122,186,496	121,752,302	-0.36%	134,186,364	133,549,103	-0.47%

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Unreliable data. Based on pre-Covid era extrapolations. Must update to reflect current vehicle usage post-Covid.

1ould have the highest traffic volume increases on the local streets, based on the results of the traffic modeling conducted for this Project (and is representative of the similar levels of traffic changes projected for Tolling Scenarios E and F). The only exception to this is the midday period in Downtown Brooklyn, which has the highest traffic volume increases on the local streets under Tolling Scenario C. The screening procedures were conducted for those pollutants that are of concern on a localized (or microscale) level: CO, PM₁₀, and PM_{2.5}. The screening was performed to determine whether detailed microscale modeling for CO, PM₁₀, or PM_{2.5} would be required to assess the potential air quality effects of the Project. The screening was conducted using the criteria from the NYSDOT *The Environmental Manual* (TEM), Chapter 1.1.¹⁵

10.1.7.3 Carbon Monoxide Screening

Following NYSDOT's TEM, Chapter 1.1, a CO microscale/hot-spot screening procedure was used to screen the intersections predicted to be affected by the Project. As per the referenced guidance, if an intersection is predicted to have a build LOS C or better, the intersection is deemed to pass the screening, and no CO analysis is warranted.

If the intersection is predicted to have LOS D or below in a build alternative, the intersection is further screened by the following criteria:

- A 10 percent or more reduction in the source-receptor distance¹⁶
- A 10 percent or more increase in traffic volume on affected roadways
- A 10 percent or more increase in vehicle emissions
- Any increase in the number of queued lanes
- A 20 percent reduction in speed, when predicted average speed is at 30 miles per hour or less

If any of the intersections affected by a project meet or exceed any of these criteria, volume threshold screening (vehicle threshold tables that tie the volume threshold with emission factors, as detailed in NYSDOT's TEM, Chapter 1.1, Section I-3) is applied. The emission factors applied within this screening would come from USEPA's MOVES2014b emission factor program and represent the 2023 analysis year. If any intersection exceeds the traffic volume thresholds in NYSDOT's TEM, then a CO hot-spot analysis is conducted following the procedures in NYSDOT's TEM, Chapter 1.1.

10.1.7.4 Particulate Matter Screening (Determining Project of Air Quality Concern)

Following NYSDOT's TEM, Chapter 1.1 (Section 8), and in accordance with USEPA's October 2021 guidance, *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas*, a project requires a quantitative particulate matter analysis if it is deemed to be a "Project of Air Quality Concern," based on the screening analysis presented in Section 10.3.2.2.

¹⁵ <https://www.dot.ny.gov/divisions/engineering/environmental-analysis/manuals-and-guidance/epm>.

¹⁶ In this case, source-receptor distance is the distance between a roadway and a sensitive receptor such as a house, school, etc. Because the Project is not widening any roadways or creating additional travel lanes, distances between sources and receptors would not change due to the Project.

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Insufficient presentation of this data on traffic modeling on the local streets. Relies upon old pre-Covid data. Must be updated for current conditions.

Table 10-6. Ambient Air Quality Monitored Data

MONITORING LOCATION			MANHATTAN & BRONX			BROOKLYN & QUEENS			NEW JERSEY		
			PS 124 40 Division St., Manhattan — 160 Convent Ave., Manhattan — IS 52 681 Kelly St., Bronx			JHS 126 424 Leonard St., Brooklyn — Queens College 65-30 Kissena Blvd., Queens			JCFD Engine 5/Ladder 6 355 Newark Ave., Jersey City — 2828 JFK Blvd., Jersey City — Overpeck Park 40 Fort Lee Rd., Leonia		
			2017	2018	2019	2017	2018	2019	2017	2018	2019
Carbon Monoxide (CO) [ppm]	1-hour	Maximum	1.6*	2.9*	1.8*	1.7 [^]	1.9	1.5 [^]	2.0**	5.1**	3.2**
		2nd Maximum	1.4*	2.5*	1.6*	1.3 [^]	1.7 [^]	1.4 [^]	1.7**	4.8**	2.1**
		# of Exceedances	0	0	0	0 [^]	0 [^]	0 [^]	0**	0**	0**
	8-hour	Maximum	1.1*	1.7*	1.3*	0.9 [^]	1.3 [^]	1.1 [^]	1.1**	3.2**	1.2**
		2nd Maximum	0.9*	1.2*	1.1*	0.9 [^]	1.2 [^]	1.1 [^]	1.1**	1.6**	1.2**
		# of Exceedances	0*	0*	0*	0 [^]	0 [^]	0 [^]	0**	0**	0**
Particulate Matter (PM) [ug/m ³]	PM ₁₀	Maximum 24 hours	35	40	43	30 [^]	38 [^]	28 [^]	36	44	42
		2nd Maximum	31	38	29	28 [^]	29 [^]	23 [^]	32	33	34
		# of Exceedances	0	0	0	0 [^]	0 [^]	0 [^]	0	0	0
	PM _{2.5}	24-hour 98th percentile	18	22	20	17	18	18	21	21	25
		Mean Annual	8.8	9.6	8.6	7.5	7.9	7.6	10.3	9.5	8.9
Ozone (O ₃) [ppm]	8-hour	1st Highest	0.077*	0.086*	0.081*	0.086 [^]	0.082 [^]	0.076 [^]	0.082+	0.091+	0.085+
		2nd Highest	0.073*	0.082*	0.071*	0.080 [^]	0.080 [^]	0.072 [^]	0.079+	0.090+	0.073+
		3rd Highest	0.070*	0.078*	0.067*	0.079 [^]	0.076 [^]	0.072 [^]	0.074+	0.081+	0.072+
		4th Highest	0.070*	0.077*	0.066*	0.079 [^]	0.073 [^]	0.071 [^]	0.074+	0.079+	0.071+
		# of days standard exceeded	2*	10*	2*	6 [^]	8 [^]	4 [^]	7+	13+	4+
Nitrogen Dioxide (NO ₂) [ppb]	1-hour Maximum		64 ^{^^}	79 ^{^^}	67 ^{^^}	79 [^]	69 [^]	61 [^]	70**	85**	83**
	1-hour second Maximum		64 ^{^^}	78 ^{^^}	66 ^{^^}	69 [^]	66 [^]	60 [^]	59**	82**	73**
	98th Percentile		59 ^{^^}	59 ^{^^}	58 ^{^^}	59 [^]	53 [^]	54 [^]	53**	58**	56**
	Annual Mean		17.3 ^{^^}	17.5 ^{^^}	16.9 ^{^^}	15.3 [^]	14.4 [^]	14.2 [^]	20.2**	19.2**	21.2**
Sulfur Dioxide (SO ₂) [ppb]	1-hour Maximum		12.2 ^{^^}	12.9 ^{^^}	7.2 ^{^^}	5.7 [^]	8.1 [^]	6.5 [^]	8**	6.4**	6.3**
	24-hour Maximum		3 ^{^^}	6.3 ^{^^}	2.4 ^{^^}	2.3 [^]	3.2 [^]	2.7 [^]	4.1**	4.1**	3.5**
	# of days standard exceeded		0 ^{^^}	0 ^{^^}	0 ^{^^}	0 [^]	0 [^]	0 [^]	0**	0**	0**

Source: U.S. Environmental Protection Agency AirData.

Notes:

- 1) 2020 and 2021 data not included due to potential impacts of COVID-19 pandemic on traffic and pollutant levels.
- Manhattan & Bronx data from PS 124 unless noted as follows: *160 Convent Avenue; ^^681 Kelly Street.
- Brooklyn & Queens data from JHS 126 unless noted as follows: ^Queens College.
- New Jersey data from JCFD Engine 5/Ladder 6 unless noted as follows: **2828 JFK Blvd; +Overpeck Park.

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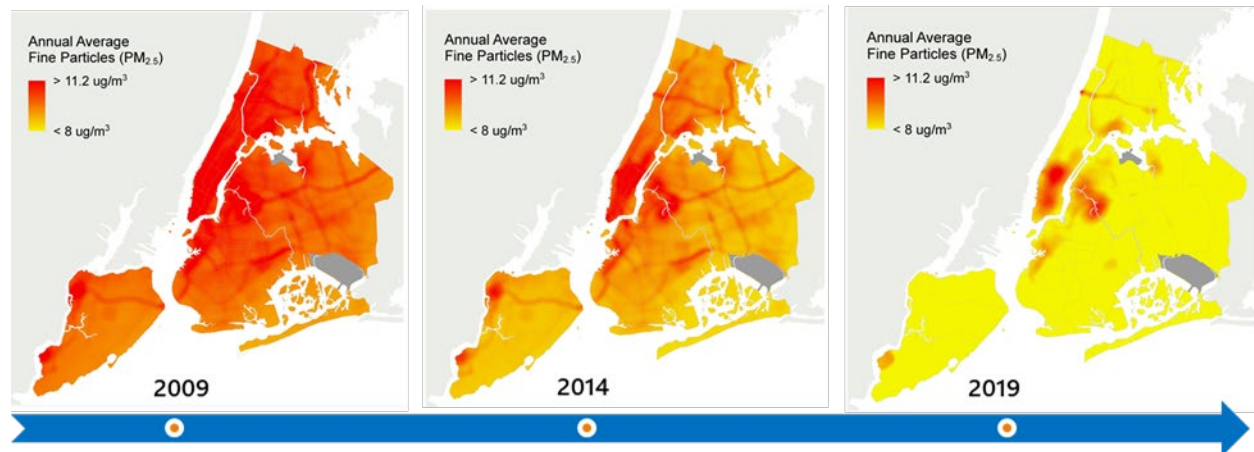
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Inaccurate analysis: Relies upon old data --Data insufficiently reflects post Covid-19 vehicle usage and must be updated to include this information.

The following key findings are the result of the NYCCAS monitoring over the past decade:

- Annual average levels of four key pollutants have decreased citywide between the first year of monitoring (2009) and the most recent year of data (2019):
 - PM_{2.5} (fine particulate matter): -38 percent (**Figure 10-3**)
 - NO₂: -33 percent
 - Nitric Oxide: -52 percent
 - Black Carbon: -38 percent
- Air quality improved substantially after the City of New York required building owners to convert to cleaner heating oils by 2015; since the first winter of monitoring, average levels of SO₂ have declined by 95 percent.

Figure 10-3. 1 M_{2.5} Trends in the Study Area (2009 to 2019)



Source: <https://nyccas.cityofnewyork.us/nyccas2021v9/report/2>.

10.3 ENVIRONMENTAL CONSEQUENCES

10.3.1 No Action Alternative

The No Action Alternative assumes no vehicular tolling program or associated tolling infrastructure and tolling system equipment. Any changes in traffic would be a result of projected background growth and other reasonably foreseeable factors not related to the Project. **Table 10-7** shows projected emission burdens for the No Action Alternative in the 12-county area for the mesoscale analysis would decrease for most pollutants in 2045, as compared to 2023, thereby continuing the trends presented in **Figure 10-3**.

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Relies upon old data --Data insufficiently reflects post Covid-19 vehicle usage and must be updated to include this information. Please update.

As shown in Figure 10-16,¹⁹ the Project would result in traffic diversions around Manhattan, into the Bronx and northern New Jersey and Staten Island. These circumferential diversions are due to implementation of the tolling in the Manhattan CBD, as drivers and trucks traveling to and from Long Island and Pennsylvania would divert around Manhattan to avoid the tolling in the Manhattan CBD. These diversions would be most pronounced at the approach to the Robert F. Kennedy Bridge in Queens, across the south Bronx and the George Washington Bridge, and into northern New Jersey. Diversions to the south would occur across the Verrazzano-Narrows Bridge and through Staten Island.

The environmental justice communities experiencing the largest traffic volumes and truck increases from these circumferential diversions are along I-95 in northern New Jersey and in Queens at the approach to the Robert F. Kennedy Bridge. Furthermore, during public engagement for the Project, members of the public expressed concerns regarding increased traffic volumes in environmental justice communities in the south Bronx, which would also be impacted by these circumferential diversions. To address these concerns, the Project team conducted detailed microscale PM analyses at these locations. Section 10.3.2.3 provides more information on these analyses.

There are also environmental justice communities that would experience decreases in traffic volumes due to these circumferential diversions. These decreases would be mainly due to the traffic no longer traveling from Long Island through the Midtown Tunnel, across the Manhattan CBD, and through the Lincoln Tunnel into New Jersey. As such, the decreases in traffic volumes would be most pronounced along the Long Island Expressway in Queens, through the Midtown and Lincoln Tunnels, and into New Jersey. Those environmental justice communities that would experience the largest traffic volumes and truck decreases from the circumferential diversions are in central Queens, Hell's Kitchen in Manhattan, and in those portions of New Jersey to the south of the Lincoln Tunnel.

[Following publication of the EA in August 2022, and based on public comments and input from the Environmental Justice Technical Advisory Group, the Project Sponsors conducted additional analysis of traffic, especially truck traffic, diversions in environmental justice communities. This analysis is separate from the mesoscale, MSAT, GHG, and microscale screening analyses presented here, and is described in Chapter 17, "Environmental Justice," and Appendix 17D, "Technical Memorandum."]

10.3.2.2 Microscale Screening Analysis

A screening analysis was conducted to determine whether detailed microscale analyses of CO and PM_{2.5}/PM₁₀ impacts are required for the CBD Tolling Alternative, or if the traffic would be below the screening thresholds and thus require no further analysis. Based on the predicted traffic volumes for Tolling Scenario D and Tolling Scenario C, as applicable, all 102 intersections in the regional study area were screened using NYSDOT CO screening parameters.¹⁹ These 102 intersections, shown in Subchapter 4B, "Transportation: Highways and Local Intersections," Figure 4B-13, were analyzed because they are the

¹⁹ For the Final EA, the Project Sponsors committed to additional mitigation measures (see Chapter 16, "Summary of Effects," Table 16-2). These new mitigation commitments neither require a change in the tolling scenarios used for the analyses in the EA nor change the fundamental conclusions of the EA (see Chapter 3, "Environmental Assessment Framework," Section 3.3.3).]

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Diversions would result in increased time on the road and increased emissions. Insufficient analysis of this diversion environmental impact. There is no analysis of those who live within Battery Park City-- this must be examined.


LOCATION	INTERSECTION	CO SCREENING	PM _{2.5} /PM ₁₀ SCREENING
Upper West Side (Manhattan)	West 72nd Street and West End Avenue	Passed	Passed
	West 61st Street and West End Avenue	Passed	Passed
	West 79th Street and Riverside Drive	Passed	Passed
	West 56th Street and Twelfth Avenue	Passed	Passed
	West 56th Street and West Side Highway	Passed	Passed
	West 55th Street and West Side Highway	Passed	Passed
	West 55th Street and Twelfth Avenue	Passed	Passed
	West 55th Street and West Side Highway Arterial	Passed	Passed
	West 60th Street and Broadway	Passed	Passed
	West 60th Street and Columbus Avenue	Passed	Passed
	West 60th Street and Amsterdam Avenue	Passed	Passed
	West 60th Street and West End Avenue	Passed	Passed
	West 61st Street and Amsterdam Avenue	Passed	Passed
	West 61st Street and Columbus Avenue	Passed	Passed
	West 61st Street and Broadway	Passed	Passed
	West 61st Street and Columbus Avenue	Passed	Passed
	West 81st Street and Central Park West	Passed	Passed
	West 66th Street and Central Park West	Passed	Passed
	West 65th Street and Central Park West	Passed	Passed
West Side Highway/ Route 9A (Manhattan)	West 24th Street and Twelfth Avenue	Passed	Passed
Little Dominican Republic (Manhattan)	West 179th Street and Broadway	Passed	Passed
Lower East Side (Manhattan)	Park Row/Chatham Square, Worth/Oliver Street and Mott Street	Passed	Passed
	Chatham Square and East Broadway	Passed	Passed
	Chatham Square/Bowery and Division Street	Passed	Passed

Appendix 10B, “Air Quality: Project-Level Hot-Spot Screening Procedure,” provides details of the CO and PM_{2.5}/PM₁₀ screening analysis.

10.3.2.3 Highway Link Analysis

During early outreach, concerns were raised related to a specific location at FDR Drive and 10th Street, as it is near low-income housing locations. A volume threshold screening was conducted and results were compared to the thresholds in Table 3B of Section I-3 of the NYSDOT TEM Chapter 1.1. The emission factors applied within this screening are from USEPA’s MOVES model. CO emission factors were generated for various speeds along FDR Drive (from 10 to 40 miles per hour) for opening-year conditions and ranged from 1.9 to 2.9 grams per mile. Upon comparison to Table 3B in the TEM, when applying the above emission factors, the peak-hour volumes in the Project would not result in an adverse effect if they have approach volumes of less than 8,000 vehicles. ¹ According to the traffic analysis, approach volumes on FDR Drive at 10th Street are under the 8,000-vehicle threshold with the Project. As such, the travel lanes in this area do not meet the criteria that would warrant a microscale analysis, and the Project would not increase traffic volumes or change other existing conditions to such a degree as to jeopardize attainment of the NAAQS for CO.

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Conclusion is drawn based on old data. Must be re-examined with post Covid-19 era vehicle usage data.

placed in a grid (shown as yellow cross-marks) to estimate the highest concentrations of PM₁₀ and PM_{2.5}. The results of the modeling were then added to the applicable background concentrations in order to compare to the NAAQS for 24-hour PM₁₀, 24-hour PM_{2.5}, and annual PM_{2.5}.

The results of the PM microscale analyses are presented in Table 10-14. As shown, all levels are below the applicable NAAQS. Details of the analysis results, as well as electronic versions of the MOVES and AERMOD files, are contained within Appendix 10C, “Air Quality: Highway Link PM Hot-Spot Detailed Assessment (Methodology, Interagency Consultation, & Results).”

[Table 10-14. Predicted Concentrations of Particulate Matter with the CBD Tolling Alternative (µg/m³)]

SITE	CONDITION	24-HOUR PM ₁₀	24-HOUR PM _{2.5}	ANNUAL PM _{2.5}
I-95 west of the George Washington Bridge	No Action	105	29.5	11.1
	Tolling Scenario C	107	29.7	11.2
Cross Bronx Expressway at Macombs Road	No Action	108	27.5	10.9
	Tolling Scenario B	109	27.7	11.0
Robert F. Kennedy (Triborough) Queens Approach	No Action	107	25.2	9.8
	Tolling Scenario E	122	27.7	10.6
NAAQS		150	35.0	12.0

Source: WSP, 2022.

Note: Values include background concentrations.

As an independent action, MTA is currently transitioning its fleet to zero-emission buses. MTA is committed to prioritizing traditionally underserved communities and those impacted by poor air quality and climate change and has developed an approach that actively incorporates these priorities in the deployment phasing process of the transition. Based on feedback received during the outreach conducted for the Project and concerns raised by members of environmental justice communities, MTA will prioritize the Kingsbridge Depot and Gun Hill Depot, both located in and serving primarily environmental justice communities in Upper Manhattan and the Bronx, when electric buses are received in MTA’s next major procurement of battery electric buses, which *[began]* in *[late]* 2022. This independent effort by MTA is anticipated to provide air quality benefits to the environmental justice communities in the Bronx.

Furthermore, the Project Sponsors will monitor air quality for the life of the Project through the NYCCAS, a citywide network of roughly 100 sensors (see **Section 10.2**). NYCDOT will coordinate to expand the existing network of sensors to monitor priority locations and supplement a smaller number of real-time PM_{2.5} monitors to provide insight into time-of-day patterns to determine whether the changes in air pollution can be attributed to changes in traffic occurring after implementation of the Project. *[The Project Sponsors will select the additional monitoring locations in consideration of air quality analysis in the EA and input from environmental justice stakeholders. NYSDEC and other agencies conducting monitoring will also be consulted prior to finalizing the monitoring approach.]* The Project Sponsors will monitor air quality prior to implementation (setting a baseline), and two years following implementation. Following the initial two-year post-implementation analysis period, *[and separate from ongoing air quality monitoring and reporting,]* the Project Sponsors will assess the magnitude and variability of changes in air quality to determine whether more monitoring *[sites are]* necessary. *[Data collected throughout the monitoring program will be made*

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There appears to be no data on PM 0.1. Please update.

Through interagency consultation and follow-up discussions, screening analyses were conducted following NYSDOT criteria for both CO and particulate matter (PM_{2.5}/PM₁₀). All 102 intersections passed the NYSDOT CO and PM_{2.5}/PM₁₀ screening analysis. For intersections that are located within the CO maintenance areas, CO hot-spot analysis requirements in 40 CFR 93.123(a) are met. ¹Based on the screening analyses, it was determined that the Project is not a project of air quality concern as defined in 40 CFR 93.123(b)(1); therefore, no hot-spot analysis for PM_{2.5}/PM₁₀ is required. The Project meets the project-level conformity requirements and would not create any new or worsen any existing violation of the NAAQS or delay timely attainment of any NAAQS or any required interim emission reductions or other milestones.

In response to public comments received, a highway segment CO screening was conducted on FDR Drive near 10th Street using NYSDOT's volume threshold screening. The analyzed location passed the screening, and no further CO analysis is warranted.

Furthermore, through interagency consultation and to address community concerns, particulate matter hot-spot analyses were conducted on highway segments at three locations representing worst-case conditions (largest increases in truck traffic and highest AADT under the Project) and community concerns. According to the analyses, there were no violations of the NAAQS with the Project, and no further analysis is warranted.

[Table 10-15] summarizes the air quality-related effects of the CBD Tolling Alternative[, and Table 10-16 summarizes how enhancement measures will be implemented by the Project Sponsors. Chapter 17, "Environmental Justice," describes additional mitigation measures that will be implemented to address potential adverse effects on environmental justice communities related to changes in air quality as a result of increased traffic due to the Project.]

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No data on PM; insufficient Environmental Impact Analysis.

MOVES2014b was used for the energy analysis. MOVES2014b provides great flexibility to capture the influence of time of day, vehicle activity (including VMT and speeds for autos, buses, and trucks), and seasonal weather effects on energy use from vehicles. MOVES2014b calculates energy usage parameters, such as total energy use and vehicle activity (hours operated and miles traveled). From this output, energy rates (e.g., Btu/vehicle miles for moving vehicles or Btu/vehicle hours for idling vehicles) can be determined for a variety of vehicle activities. County-specific MOVES2014b input data from the New York State Department of Environmental Conservation were used in combination with link-by-link traffic data and VMT data from the New York Metropolitan Transportation Council Best Practice Model for the CBD Tolling Alternative.

11.3.1 No Action Alternative

As **Table 11-1** shows, the No Action Alternative would not implement a vehicular tolling program and therefore would not reduce energy consumption through reductions in VMT.

11.3.2 CBD Tolling Alternative

1 Because Tolling Scenario A was used for the energy analysis, it is expected that the other tolling scenarios with larger VMT reductions would show greater regional energy benefits.

As **Table 11-1** shows, Tolling Scenario A would result in lower energy use in the region compared to the No Action Alternative for both completion year (2023) and design year (2045) because VMT would be reduced. In addition to the change in energy usage due to changes in roadway VMT, the Project would require energy to power monitoring and tolling equipment, including network detection systems and servers that process the data collected by the network detection systems. **Table 11-1** details the energy use for these systems.

Table 11-1. Total Energy Consumption: No Action Alternative and CBD Tolling Alternative, Tolling Scenario A (2023 and 2045)

PARAMETER (Million Btu)	ANALYSIS YEAR 2023 (Completion Year)			ANALYSIS YEAR 2045 (Design Year)		
	No Action Alternative	CBD Tolling Alternative	Difference	No Action Alternative	CBD Tolling Alternative	Difference
Roadway Energy	384,117,220	381,663,310	-2,453,910	329,538,610	326,649,830	-2,888,780
Server Energy	0	945	945	0	945	945
Systems	0	5,552	5,552	0	5,552	5,552
TOTAL OPERATIONAL ENERGY	384,117,220	381,669,807	-2,447,413	329,538,610	326,656,327	-2,882,283

Source: WSP

The CBD Tolling Alternative would result in an overall benefit for the region in terms of reduced energy usage.

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This is contradictory to the section that discusses the additional VMT increases because of diversions. Please clarify.

11.3.3 Construction Effects

The CBD Tolling Alternative is anticipated to have a construction duration of up to 310 days. Construction would begin with the deployment of various monitoring devices throughout the street networks. The estimated construction cost of the Project is \$108,687,261.00,³ which includes the following:

- **Supporting System Tolling Infrastructure Installation (\$94,919,283)** includes the cost of work, labor, tolling system equipment, and materials required for the tolling infrastructure construction (except for signage and pavement markings) that would be required to achieve tolling infrastructure readiness in accordance with the contract documents. Design services are excluded in this value.
- **Signage and Pavement Marking Installation (\$13,767,978)** includes the cost of work, labor, equipment, and materials required for the signage and pavement markings within NYCDOT, NYSDOT, and Metropolitan Transportation Authority controlling jurisdictions that would be required to achieve infrastructure readiness in accordance with the contract documents. Design services are excluded in this value.

Based on this cost and using the NYSDOT construction cost calculation procedures to quantify energy use, the construction of the Project would require 268,000 million Btu of energy. This energy usage is expected to be paid back through the operational energy savings (detailed in **Table 11-1**) in less than one year.

11.4 CONCLUSION

An energy analysis was completed for the Project's operational and construction phases. The operational analysis shows that the Project would reduce energy use in the region in both 2023 and 2045. The construction of the Project would require 268,000 million Btu of energy, which is expected to be paid back through the operational energy savings in less than one year. **Table 11-2** summarizes the energy-related effects of the CBD Tolling Alternative.

Table 11-2. Summary of Effects of the CBD Tolling Alternative on Energy

SUMMARY OF EFFECTS	EFFECT FOR ALL TOLLING SCENARIOS	POTENTIAL ADVERSE EFFECT	MITIGATION AND ENHANCEMENTS
Reductions in regional energy consumption	Reductions in regional VMT would reduce energy consumption.	No	No mitigation needed. Beneficial effects

³ Data provided by HDR on March 28, 2022, and April 6, 2022.

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Insufficient analysis of increased congestion and environmental impact caused by this construction work. Please update.

Table 12-3. New York City Environmental Quality Review External Noise Exposure Guidelines

RECEPTOR TYPE ¹	TIME PERIOD	ACCEPTABLE GENERAL EXPOSURE	AIRPORT EXPOSURE ³	MARGINALLY ACCEPTABLE GENERAL EXPOSURE	AIRPORT EXPOSURE ³	MARGINALLY UNACCEPTABLE GENERAL EXPOSURE	AIRPORT EXPOSURE ³	CLEARLY UNACCEPTABLE GENERAL EXPOSURE	AIRPORT EXPOSURE ³
1. Outdoor area requiring serenity and quiet ²		$L_{10} \leq 55$ dB(A)							
2. Hospital, Nursing Home		$L_{10} \leq 55$ dB(A)		$55 < L_{10} \leq 65$ dB(A)		$65 < L_{10} \leq 80$ dB(A)		$L_{10} > 80$ dB(A)	
3. Residence, residential hotel or motel	7 AM–10 PM	$L_{10} \leq 65$ dB(A)	$L_{dn} \leq 60$ dB(A)	$65 < L_{10} \leq 70$ dB(A)	$L_{dn} \leq 65$ dB(A)	$70 < L_{10} \leq 80$ dB(A)	$65 < L_{dn} \leq 70$ dB(A) ⁽¹⁾	$L_{10} > 80$ dB(A)	$L_{dn} > 75$ dB(A)
	10 PM–7 AM	$L_{10} \leq 55$ dB(A)		$55 < L_{10} \leq 70$ dB(A)		$70 < L_{10} \leq 80$ dB(A)		$L_{10} > 80$ dB(A)	
4. School, museum, library, court, house of worship or transient hotel or motel, public meeting room, auditorium, out-patient public health facility		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)	
5. Commercial or office		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)	
6. Industrial, public areas only ⁴	Note ⁴	Note ⁴		Note ⁴		Note ⁴		Note ⁴	

¹ Source: New York Department of Environmental Protection (adopted policy 1983).

(i) In addition, any new activity shall not increase the ambient noise level by 3 dB(A) or more.

¹ Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute Standards; all values are for the worst hour in the time period.

² Tracts of land where serenity and quiet are extraordinarily important and serve an important public need and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, parks or portions of parks or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and old-age homes.

³ One may use the Federal Aviation Administration-approved L_{dn} contours supplied by the Port Authority of New York and New Jersey, or the noise contours may be computed from the Federally approved Integrated Noise Model using data supplied by the Port Authority of New York and New Jersey.

⁴ External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts. (Performance standards are octave band standards.)

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Battery Park City Schools along West Street and Hugh L Carey Tunnel were not considered. We are requesting further environmental studies to ensure the health and safety of the students from 0-12 Grade.

sensitive receptor. Once the traffic leaves these crossings, the volume flow would be absorbed into the local street network, where the local street PCE analysis was performed to determine maximum noise-level changes within each community.

As indicated on **Table 12-4**, for the majority of the bridge and tunnel crossings, the 24-hour PCE-based traffic noise screening analysis projected little, or no noise-level increases between the No Action Alternative and CBD Tolling Alternative. Moreover, those locations with a negative value are projected to see a slight decrease in overall noise exposure. The maximum noise-level increases would remain below the CEQR 3 dB(A) PCE doubling threshold level and is considered barely perceptible to most listeners.


1 According to the modeling, the highest increases in noise exposure would occur adjacent to the Queens-Midtown and Hugh L. Carey Tunnels. In the former, a 2.7 dB(A) to 2.9 dB(A) increase in noise levels would occur from 11:00 p.m. to 6:00 a.m.; in the latter, a 1.8 dB(A) to 1.9 dB(A) increase would occur from 9:00 p.m. to 6:00 a.m. When using the PCE methodology, small increases in a projected future build condition PCE volume can result in larger projected magnitude increases in noise level changes than may actually occur. (Because the model uses a logarithmic formula, small increases in traffic can seem magnified.) Importantly, the increases predicted at the tunnel portals remain below the threshold (3.0 dB(A)) that would require further analysis to determine whether these increases are adverse. Further, the projected increases also remain below the level of increase that would be perceived by the human ear. Finally, as vehicles disperse from the portals into the local street network, these imperceptible noise increases would be diminished at properties farther away from the immediate portals. The local street analysis, discussed in the next section, supports this conclusion

12.3.2.2 Local Street Noise Assessment

To assess the potential noise exposure of the traffic moving across the major bridge and tunnel crossings into and out of Manhattan on local streets, a localized PCE-based noise screening assessment was completed. The assessment was performed for those communities identified by the Project traffic studies as areas where changes in traffic would likely contribute to changes in noise exposure.

The local street PCE-based assessment was completed for the Project's peak traffic travel-time periods for Tolling Scenario D, except in Downtown Brooklyn where Tolling Scenario C was used because it would result in greater trip generation at that location. These evaluated peak periods consisted of AM, midday, PM, and, in some cases, a late-night assessment period. The traffic analysis determined the addition of the late-night assessment hour.

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Disproportionate effect on residents bordering the West Side Highway (Battery Park City) not analyzed.

13.2.6 Groundwater Resources, Aquifers, and Reservoirs

In the Manhattan CBD, groundwater is generally at least 10 feet below the surface. NYSDEC aquifer data files show that the local study area is not in an identified Primary Water Supply or Principal Aquifer Area. No Sole Source Aquifers regulated by the U.S. Environmental Protection Agency are present in the local study area. New York City receives its drinking water from a system of aqueducts and reservoirs north of the city boundaries. No municipal drinking water wells, wellhead influence zones, or drinking water reservoirs are in or near the local study area.^{6, 7}

13.2.7 Stormwater Management

In the Manhattan CBD, stormwater runoff generally flows into catch basins, and then into the city's combined sewer system. The discharge of stormwater and sanitary waste differ during dry weather and storm events. The City of New York's State Pollutant Discharge Elimination System permits govern these discharges. The New York City Department of Environmental Protection regulates stormwater discharges from development lots to the city sewer system under Chapter 31 of Title 15 of the Rules of the City of New York.

13.2.8 General Ecology and Wildlife Resources

The terrestrial ecological communities of the local study area are highly urbanized and can be considered "terrestrial cultural communities."^{8, 9} These vegetated ecological communities provide limited ecological value.¹ Adjacent to the local study area, terrestrial ecological communities and related natural resources are largely limited to parks (e.g., Central Park and East River Park). Given the limited habitat areas in the local study area, wildlife diversity and bird populations, in general, are low and limited to common native and nonnative species adapted to urban conditions. This may include migratory birds protected by the Migratory Bird Treaty Act.¹⁰

⁶ NYSDEC. Area Hydrography mapping. <http://gis.ny.gov/gisdata/metadata/alis.hydrography.area/hydrography.xml#Top>.

⁷ <https://www1.nyc.gov/site/dep/water/drinking-water.page>.

⁸ Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). 2014. *Ecological Communities of New York State*. Second Edition. A revised and expanded edition of Carol Reschke's *Ecological Communities of New York State*. 1990. New York Natural Heritage Program, NYSDEC, Albany, NY.

⁹ These communities are "created and maintained by human activities, or are modified by human influence to such a degree that the physical conformation of the substrate, or the biological composition of the resident community is substantially different from the character of the substrate or community as it existed prior to human influence." Examples include flower/herb gardens, mowed lawn and mowed lawn with trees, mowed roadside/pathway, paved road/pathway, and urban vacant lot.

¹⁰ The Migratory Bird Treaty Act makes it unlawful to pursue, hunt, take, capture, kill, or sell birds listed therein. The statute applies equally to both live and dead birds, and grants full protection to any bird parts, including feathers, eggs, and nests. The USFWS implements the Migratory Bird Treaty Act.

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Hudson River Park must be included in the analysis.

13.2.9 Endangered and Threatened Species

According to USFWS's Information, Planning, and Consultation database (reviewed on May 24, 2022; see **Appendix 13A, "Natural Resources: Natural Resource Correspondence"**), one species has the potential to occur within the local study area, the monarch butterfly. The monarch butterfly is listed as a candidate species, and it currently does not have any protection under Section 7 of the Endangered Species Act (ESA).

Based on a review of the National Oceanic and Atmospheric Administration ESA Section 7 Mapper for the Greater Atlantic Region,¹¹ several Federally listed marine species could occur in the East River and Hudson River adjacent to the local study area (see **Appendix 13A**).¹ Additionally, the Hudson River has been identified as critical habitat for the New York Bight Distinct Population Segment of Atlantic sturgeon. The CBD Tolling Alternative would not involve any activities in the Hudson River or East River.

Based on a review of the New York Natural Heritage Program database on May 24, 2022, four species listed by the State of New York as endangered or threatened could be present in the local study area: the peregrine falcon (New York State endangered); coastal plain blue-eyed grass (New York State endangered); little ladies' tresses (New York State threatened); and red pigweed (New York State threatened), which was present in or near the local study area in the 1890s and could still be present today.

- Peregrine falcons nest on rocky cliffs near river gorges but can also nest on man-made structures such as bridges and skyscrapers. Peregrine falcons generally mate for life and return to the same nest year after year. In New York, nesting season begins in late winter and ends when the birds migrate south in early autumn. In New York City, nest sites are located high above the ground on buildings and other structures such as bridges. With nests in urban areas with high levels of noise and human activity, peregrine falcons demonstrate a high tolerance of and exposure to disturbance and an ability to exploit resources in human-dominated landscapes.^{12, 13}
- Coastal plain blue-eyed grass is a perennial wildflower that grows in grasslands, meadows and fields, sandplains, and barrens.¹⁴ The only potential habitat within the local study area for this species is Central Park.
- Little ladies' tresses is a perennial wildflower that typically grows in dry fields and open woods.¹⁵ The only potential habitat within the local study area for little ladies' tresses is within Central Park.

¹¹ <https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-critical-habitat-information-maps-greater>.

¹² Cade, T.J., M. Martell, P. Redig, G. Septon, and H. Tordoff. 1996. Peregrine falcons in urban North America. In: D.M. Bird, D. Varland, and J. Negro (eds.) *Raptors in human landscapes: adaptations to built and cultivated environments*. Academic Press, San Diego, CA.

¹³ White, Clayton M., Nancy J. Clum, Tom J. Cade and W. Grainger Hunt. 2002. Peregrine Falcon (*Falco peregrinus*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; <http://bna.birds.cornell.edu/bna/species/660doi:10.2173/bna.660>.

¹⁴ Massachusetts Division of Fisheries and Wildlife. 2015. Sandplain Blue-eyed Grass (*Sisyrinchium fuscatum*). Natural Heritage & Endangered Species Program. <https://www.mass.gov/doc/sandplain-blue-eyed-grass/download>.

¹⁵ Newcomb, L., Morrison, G., & Clement, R. C. 1977. Newcomb's wildflower guide: An ingenious new key system for quick, positive field identification of the wildflowers, flowering shrubs and vines of Northeastern and North Central North America.

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Insufficient analysis of air pollution on the Hudson River Park area.

- Red pigweed occurs in coastal areas including interdunal swales, stony beaches, shorelines of coastal ponds and rivers, salt marshes, brackish soils, and waste places, which is a broadly encompassing term that includes, but is not limited to, abandoned lots, areas containing construction and demolition debris and other refuse, and areas containing contaminated soils. It has also been found in ship ballasts. The natural habitats in which red pigweed is expected to occur do not occur within the local study area. However, areas described as waste places (e.g., abandoned lots, dumping areas, contaminated sites) are present within the local study area. Therefore, red pigweed has the potential to occur within the local study area.

13.2.10 Essential Fish Habitat

The National Marine Fisheries Service Essential Fish Habitat (EFH) Mapper¹⁶ lists EFH for several species potentially present in the Hudson River and East River adjacent to the local study area. ¹The CBD Tolling Alternative would not involve any activities in the Hudson River or East River.

13.2.11 Critical Environmental Areas, Habitat Areas, Wildlife Refuges, and Wildfowl Refuges

According to NYSDEC, the local study area does not have any Critical Environmental Areas or state forest preserve lands.^{17, 18} The local study area also is not in or adjacent to any wildlife or waterfowl refuges.

13.3 ENVIRONMENTAL CONSEQUENCES

13.3.1 No Action Alternative

The No Action Alternative would not result in a vehicular tolling program and any associated tolling infrastructure and tolling system equipment; therefore, it would not affect natural resources.

13.3.2 CBD Tolling Alternative

For the most part, the CBD Tolling Alternative would have new tolling infrastructure and tolling system equipment within the transportation right-of-way in developed areas of Manhattan where there are limited natural features. ²The new tolling system equipment would be on new or existing infrastructure or would consist of infrastructure comparable in form to existing streetlight poles, sign poles, and overhead sign structures on and adjacent to existing transportation infrastructure (e.g., roads, bridges, and sidewalks).

¹⁶ National Marine Fisheries Service Essential Fish Habitat Mapper. <https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>.

¹⁷ NYSDEC. Critical Environmental Areas. <https://www.dec.ny.gov/permits/6184.html>.

¹⁸ NYSDEC provides the following definition for state forest preserves: Protected by Article XIV of the New York State Constitution, the Forest Preserve is defined as public lands in the Adirondack and Catskill Parks within “forest preserve counties” as defined by the New York State Legislature. These lands are identified as [ECL 9-0101] “...lands owned or hereafter acquired by the state within the county of Clinton, except the towns of Altona and Dannemora, and the counties of Delaware, Essex, Franklin Fulton, Hamilton, Herkimer, Lewis, Oneida, Saratoga, Saint Lawrence, Warren, Washington, Greene, Ulster and Sullivan...” <https://www.dec.ny.gov/lands/7811.html>.

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This statement is untrue as the CBD tolling alternative would be occurring on the West Side Highway along the Hudson River Park. Air pollution from increased idling would affect the waterways.



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Does not access the impact of light pollution. This must be analyzed.

13.3.2.3 Floodplains

Tolling infrastructure and tolling system equipment would be placed on new or replacement poles, existing overhead sign structures, and existing pedestrian bridges that are within mapped floodplains of the Hudson River and East River. The floodplains within the local study area are affected by coastal rather than riverine flooding, and therefore, controlled by tidal conditions, occupation of the floodplain by larger or new poles for the CBD Tolling Alternative would not result in increased flooding within or adjacent to the local study area. The new tolling infrastructure and tolling system equipment would be within and adjacent to the transportation right-of-way and would not impede emergency access or limit the efficacy of natural floodplains. Therefore, the CBD Tolling Alternative would not affect floodplains.

Because the sources of floodwaters in the local study area are tidal, there would be no loss of storage capacity or increase because of permanent structures associated with the CBD Tolling Alternative. The larger or new poles for the CBD Tolling Alternative would not constitute an encroachment, because it would not endanger citizens or workers, cause likely future damage, or notably affect natural or beneficial floodplain values. Therefore, with respect to the findings required by Executive Order 11988, “Floodplains Management”:

- A significant encroachment would not occur.
- ¹ There would be no significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles.
- There would be no significant effects on natural beneficial floodplain values.

The CBD Tolling Alternative would comply with Executive Order 11988.

13.3.2.4 Coastal Resources

Some of the new tolling infrastructure and tolling system equipment would be within the boundaries of the State of New York’s designated Coastal Area (see **Figure 13-3**). The Project Sponsors completed the New York State Coastal Assessment Form and the New York City Waterfront Revitalization Program Consistency Assessment Form (see **Appendix 13B, “Natural Resources: Coastal Zone Consistency Assessments”**). The forms certify that the CBD Tolling Alternative would be implemented consistent with applicable coastal policies. The Project Sponsors will seek concurrence on their coastal zone consistency finding from the New York State Department of State and the New York City Department of City Planning.

13.3.2.5 Groundwater Resources, Aquifers, and Reservoirs

The local study area is not in an identified Primary Water Supply or Principal Aquifer Area and does not have any Sole Source Aquifers. Depending on the type of pole or mounting structure and its configuration, the depth of excavation would range from approximately 2 to 12 feet. This excavation is unlikely to encounter groundwater, which is generally more than 10 feet below grade in the Manhattan CBD.

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Further analysis of traffic patterns and the effect on emergency vehicles as it does not clearly assess the impact of the addition of 200 cars/ hour into the CBD.

that are highly disturbed. With the implementation of measures to protect certain resources during construction, the CBD Tolling Alternative would not adversely affect natural resources.

Table 13-1. **Summary of Effects of the CBD Tolling Alternative on Natural Resources**

SUMMARY OF EFFECTS	EFFECT FOR ALL TOLLING SCENARIOS	POTENTIAL ADVERSE EFFECT	MITIGATION AND ENHANCEMENTS
Construction activities to install tolling infrastructure near natural resources	No effects on surface waters, wetlands, or floodplains. Potential effects on stormwater and ecological resources during construction will be managed through construction commitments. The Project is consistent with coastal zone policies.	No	<ul style="list-style-type: none"> Implement sediment and erosion control measures and any conditions contained in an approved Stormwater Pollution Discharge Elimination System Permit, if necessary. Consult with NYSDEC on any measures necessary to avoid a potential take of peregrine falcon nests. Schedule construction activities that would require tree removal, if applicable, outside the primary bird breeding season. Undertake a preconstruction survey to determine if coastal plain blue-eyed grass, little ladies' tresses, and red pigweed are present at construction locations and develop a protection plan if found. Undertake tree protection measures consistent with the requirements of and in consultation with NYC Parks.

[Table 13-2. *Summary of the CBD Tolling Alternative Implementation Approach for Mitigation and Enhancement Measures for Natural Resources*]

RELEVANT LOCATION(S)	DESCRIPTION OF MITIGATION OR ENHANCEMENT	TIMELINE FOR PRE- AND POST-PROJECT IMPLEMENTATION DATA COLLECTION FOR SPECIFIC MEASURES	THRESHOLD FOR DETERMINING WHEN NEXT STEP(S) WILL BE IMPLEMENTED	TIMING FOR SPECIFIC MEASURES	LEAD AGENCY
Sites of tolling infrastructure and tolling system equipment	Refer to Table 13-1 for a listing of construction commitments to avoid, minimize, or mitigate potential negative effects.	N/A – No early monitoring required; implemented under any adopted tolling structure.	N/A – No threshold required; implemented under any adopted tolling structure.	Will occur during design, development, testing, and/or construction as per contract.	TBTA will ensure contractors comply with contract requirements.

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Air quality will impact water quality. Further natural resource analysis is required.

EA CHAPTER / ENVIRONMENTAL CATEGORY	TOPIC	SUMMARY OF EFFECTS	LOCATION	DATA SHOWN IN TABLE	TOLLING SCENARIO							POTENTIAL ADVERSE EFFECT	MITIGATION AND ENHANCEMENTS
					A	B	C	D	E	F	G		
4C – Transportation: Transit (Cont'd)	Transit Elements (Cont'd)	Increased ridership would affect passenger flows with the potential for adverse effects at certain vertical circulation elements (i.e., stairs and escalators) in five transit stations (cont'd)	Court Sq subway station (Queens)–Stair P2/P4 to Manhattan-bound No. 7 line	Relative increase or decrease in passenger volumes at station OVERALL as compared to Tolling Scenario E (not only at the affected stair or location) in the peak hour, peak period	98%	90%	102%	104%	100%	117%	97%	Yes	Mitigation needed. TBTA will coordinate with MTA NYCT to implement a monitoring plan for this location. The plan will identify a baseline, specific timing, and a threshold for additional action. If that threshold is reached, TBTA will coordinate with MTA NYCT to construct a new stair from the northern end of the No. 7 platform to the street. The threshold will be set to allow for sufficient time to implement the mitigation so that the adverse effect does not occur.
4D – Transportation: Parking	Parking Conditions	All tolling scenarios would result in a reduction in parking demand within the Manhattan CBD of a similar magnitude to the reduction in auto trips into the Manhattan CBD. With a shift from driving to transit, there would be increased parking demand at subway and commuter rail stations and park-and-ride facilities outside the Manhattan CBD.	Manhattan CBD	Narrative	Reduction in parking demand due to reduction in auto trips to CBD							No	No mitigation needed. Beneficial effects
			Transit facilities	Narrative	Small changes in parking demand at transit facilities, corresponding to increased commuter rail and subway ridership							No	No mitigation needed. No adverse effects
1 Transportation: Pedestrians and Bicycles	Pedestrian Circulation	Increased pedestrian activity on sidewalks outside transit hubs because of increased transit use. At all but one location in the Manhattan CBD (Herald Square/Penn Station), the increase in transit riders would not generate enough new pedestrians to adversely affect pedestrian circulation in the station area. Outside the Manhattan CBD, transit usage at individual stations would not increase enough to adversely affect pedestrian conditions on nearby sidewalks, crosswalks, or corners.	Herald Square/Penn Station NY	Sidewalks, corners, and crosswalks with pedestrian volumes above threshold in AM / PM peak periods	Adverse effects on pedestrian circulation at one sidewalk segment and two crosswalks							Yes	Mitigation needed. [NYCDOT] will implement a monitoring plan at this location. The plan will include a baseline, specific timing, and a threshold for additional action. If that threshold is reached, [NYCDOT] will increase pedestrian space on sidewalks and crosswalks via physical widening and/or removing or relocating obstructions.
	Bicycles	Small increases in bicycle trips near transit hubs and as a travel mode	Manhattan CBD	Narrative	Small increases in bicycle trips near transit hubs with highest increases in pedestrian trip share							No	No mitigation needed. No adverse effects
			Outside Manhattan CBD	Narrative	Some shifts from automobile to bicycles							No	No mitigation needed. No adverse effects
	Safety	No adverse effects	Overall	Narrative	No substantial increases in pedestrian volumes or increased safety concerns, including at existing identified high-crash locations. Overall, with fewer vehicular trips entering and exiting the Manhattan CBD, the CBD Tolling Alternative could result in reduced traffic volumes at these locations. This would help to reduce vehicle-vehicle and vehicle-pedestrian conflicts, leading to an overall benefit to safety.							No	
5A – Social Conditions: Population	Benefits	Benefits in and near the Manhattan CBD	28-county study area	Narrative	Benefits in and near the Manhattan CBD related to travel-time savings, improved travel-time reliability, reduced vehicle operating costs, improved safety, reduced air pollutant emissions, and predictable funding source for transit improvements. This would positively affect community connections and access to employment, education, healthcare, and recreation for residents.							No	No mitigation needed. Beneficial effects
	Community Cohesion	Changes to travel patterns, including increased use of transit, resulting from new toll	28-county study area	Narrative	Changes to travel patterns, including increased use of transit, as a result of the Project would not adversely affect community cohesion or make it more difficult for people to connect with others in their community, given the extensive transit network connecting to the Manhattan CBD and the small change in trips predicted.							No	No mitigation needed. No adverse effects (see “Environmental Justice” below for mitigation related to increased costs for low-income drivers).

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Battery Park City Bike Path is omitted from this detail and will need further environmental assessment for public safety.

It is not clear whether the increase traffic along the West Side Highway / 9A and the West side Bike path, would increase bicycle traffic by those who are seeking to use Citibike and bicycles as alternative forms of transportation. Paired with the increased exhaust exposure - we would like to see a full environmental assessment as it would affect pedestrians crossing these bike paths, bike riders and the like.

- The north crosswalk of Sixth Avenue and West 34th Street would operate at LOS E in the AM peak hour and LOS F in the PM peak hour.

1 Although there would be no change in the number of congested LOS E or LOS F pedestrian elements with or without the Project, there would be slight deteriorations in square feet per pedestrian (SFP) values. Based on the *CEQR Technical Manual* adverse effects criteria presented in **Subchapter 4E, “Transportation: Pedestrians and Bicycles,”** the CBD Tolling Alternative would result in potential adverse pedestrian effects near Herald Square/Penn Station New York, as follows:

- The Sixth Avenue and West 34th Street north crosswalk would operate at LOS E with a decrease of 1.8 SFP in the AM peak hour and at LOS F with a decrease of 0.6 SFP in the PM peak hour compared to the No Action Alternative.

The potential adverse effects at this location can be resolved through measures that would be implemented as part of the Project. This measure would not affect existing bicycle infrastructure in the street. Increased pedestrian space on the crosswalk can be achieved via physical widening. **Table 16-[4]** shows the recommended measure and predicted conditions with the implementation. This measure would be developed in coordination with NYCDOT prior to its implementation. **Table 16-[4]** also notes the relative ease of implementation of the recommended measure.

Table 16-[4]. CBD Tolling Alternative with Improvement Measures with East Side Access—Pedestrian Level of Service Analysis—Herald Square/Penn Station New York

LOCATION	PROJECT IMPROVEMENT MEASURES	NO ACTION		CBD TOLLING		CBD TOLLING (IMPROVED)	
		SFP	LOS	SFP	LOS	SFP	LOS
Weekday AM Peak Hour							
Sixth Avenue and West 34th Street: north crosswalk	Widen the crosswalk by 1.5 feet (easy to implement). Crosswalk widening of 2.0 feet needed without East Side Access.	12.8	E	11.0	E	12.0	E
Weekday PM Peak Hour							
Sixth Avenue and West 34th Street: north crosswalk	Widen the crosswalk by 1.5 feet (easy to implement). Crosswalk widening of 2.0 feet needed without East Side Access.	6.8	F	6.2	F	6.8	F

Note: SFP = square feet per pedestrian.

The adverse effects and Project improvement measures presented in **Subchapter 4E, “Transportation: Pedestrians and Bicycles”** on the west sidewalk of Eighth Avenue between 35th and West 34th Streets and the north crosswalk of Seventh Avenue and West 32nd Street without East Side Access would not occur with East Side Access.

With implementation of the CBD Tolling Alternative, the west sidewalk of Lexington Avenue between East 44th and East 45th Streets during the AM and PM peak hours would continue to operate at LOS E, with decreases of 1.0 SFP in both peak hours compared to the No Action Alternative. Based on the expected LOS

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Battery Park City bike path that is set along West Street, has not been evaluated in this document fully and needs to have a full environmental assessment.

17 Environmental Justice

17.1 INTRODUCTION

This chapter presents an analysis of the potential effects of the CBD Tolling Alternative on low-income and minority populations (collectively, environmental justice populations) and provides an analysis of whether the Project would result in disproportionately high and adverse effects on low-income and minority populations. *[Appendix 17, “Environmental Justice,” provides more detailed information on the methodology used to conduct this analysis.]*

The analysis in this chapter is based on the conclusions of the other analyses presented in previous chapters of this EA, concerns raised during the extensive public outreach that FHWA *[, and on supplemental analysis contained in Appendix 17D, “Technical Memorandum,” that was developed by the Project Sponsors in response to some of those concerns].*

17.2 REGULATORY CONTEXT

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994), directs Federal agencies to identify and address, as appropriate, disproportionately high and adverse effects of Federal actions on minority and low-income populations. Its purpose is to focus Federal attention on the environmental and human health effects of Federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities. FHWA defines environmental justice as identifying and addressing disproportionately high and adverse effects of the agency’s programs, policies, and activities on minority populations and low-income populations to achieve an equitable distribution of benefits and burdens. This also includes the full and fair participation by all potentially affected environmental justice populations in the transportation decision-making process.¹

The following Federal regulatory and guidance documents were used for the environmental justice analysis:

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 1994)²
- U.S. Department of Transportation (USDOT) Order 5610.2C, Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (May 2021)³
- USDOT, Environmental Justice Strategy (November 2016)⁴

¹ https://www.fhwa.dot.gov/Environment/environmental_justice/.

² <https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf>.

³ <https://www.transportation.gov/sites/dot.gov/files/Final-for-OST-C-210312-003-signed.pdf>.

⁴ <https://www.transportation.gov/transportation-policy/environmental-justice/environmental-justice-strategy>.

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BPC has a diverse population. Over 30% are minorities. See <https://statisticalatlas.com/neighborhood/New-York/New-York/Battery-Park/Race-and-Ethnicity>

mitigation measure or practicable alternative that would avoid or reduce the disproportionately high and adverse effects.

6. Provide meaningful opportunities for environmental justice populations to provide input on the Project (Section 17.[9]).

17.3.2 Data Sources


The environmental justice analysis is based on the conclusions of the other chapters of this EA, in combination with supplemental data on environmental conditions and information from the U.S. Census Bureau, as follows:

- Information on the effects of the CBD Tolling Alternative is based on the conclusions of the other analyses presented in this EA. These conclusions were informed, in part, by concerns raised by the public during early public outreach for the Project in fall 2021.
- Areas where residents are minority and/or low-income were identified using data from the U.S. Census Bureau 2015-2019 American Community Survey (ACS) 5-Year Estimates. The 2015–2019 ACS 5-Year Estimates is the most current full set of demographic information, including racial and ethnic characteristics and household income and poverty status, available from the U.S. Census Bureau at the census tract level. The 2020 Census information now available does not include a full set of information.
- Socioeconomic characteristics of the traveling public, including minority and/or low-income populations, were based on data from the U.S. Census Bureau’s Census Transportation Planning Package (CTPP). The CTPP provides special tabulations, based on the U.S. Census Bureau ACS 5-Year Estimates, that are useful for transportation planning, including commuter flow data at varying geographic scales by mode of commute and household income. The CTPP data include information on commuter patterns for a range of income levels.¹ The most recent CTPP is based on the 2012-2016 ACS 5-Year Estimates and has not been updated to reflect more recent ACS data.
- *[Supplemental analyses prepared following completion of the August 2022 EA of potential Project-related effects of traffic increases on environmental justice populations that already have high levels, compared to national norms, of pre-existing pollutant or chronic disease burdens.]*
- Conclusions about the effects of the CBD Tolling Alternative on low-income and/or minority populations and potential measures to avoid, minimize, or mitigate those effects were informed by the early public outreach for the Project in fall 2021², *public comments on the August 2022 EA, and additional outreach following publication of the August 2022 EA related to the supplemental analyses conducted*.² That outreach included public webinars to engage with environmental justice populations throughout the 28-county region, coordination with an Environmental Justice Technical Advisory Group, and meetings with an Environmental Justice Stakeholder Working Group (see Section 17.[9]).


17.4 ENVIRONMENTAL JUSTICE STUDY AREAS

The environmental justice analysis evaluates two types of potential effects of the CBD Tolling Program, neighborhood effects and regional effects:

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PROCESS: The CTPP data from 2012-2016 is not accurate as there has been substantial change in the population, particularly due to COVID.

SOLUTION: Use more recent data or wait until the more recent data is available.

 Number: 2 Author: BPC Resident Subject: Highlight Date: 6/12/23, 11:49:47 AM
PROCESS: It does not appear that all populations were reviewed, especially BPC.

SOLUTION: Review the process to ensure neighborhoods like BPC are included.

- **Local (Neighborhood) Effects:** These are effects on local communities. ¹Based on the conclusions of the other chapters of this EA, the potential neighborhood effects of the CBD Tolling Alternative would be primarily related to diverted trips and changes in traffic patterns, and the potential resulting effects in terms of traffic congestion, air emissions, and noise.
- **Regional Effects:** These are effects on regional mobility. The analysis considers how implementation of the CBD Tolling Alternative would affect the regional population in terms of increased costs (tolls), changes in trip time, and changes in transit conditions.

The information presented in **Chapters 4 through 15** of this EA and summarized in **Chapter 16, “Summary of Effects”** (see **Table 16-1**) describe the local and regional effects of implementation of the CBD Tolling Alternative on the general population and identify potential adverse effects and measures to avoid, minimize, or mitigate those effects. FHWA and the Project Sponsors reviewed those conclusions as well as concerns raised during public outreach for the Project to determine what Project effects have the potential to affect environmental justice populations. This informed selection of study areas for the environmental justice analysis, as discussed in **Sections 17.4.1 and 17.4.2**, and the topics to be considered in the analysis (see **Section 17.6**).

In addition, during public outreach conducted for the Project in fall 2021 (see **Section 17.9**), members of the public raised a number of concerns related to the Project’s potential for effects on environmental justice populations, and FHWA and the Project Sponsors reviewed those concerns and included them in the analysis of environmental justice presented in this chapter:

- **Potential Project Effects on Traffic, Air Quality, and Noise Near Environmental Justice Neighborhoods:** Participants in public webinars and meetings of the Environmental Justice Stakeholder Working Group and Environmental Justice Technical Advisory Group raised concerns that the CBD Tolling Alternative would divert traffic to circumferential highways around the Manhattan CBD and that these additional vehicles would adversely affect the nearby neighborhoods, including by degrading air quality and increasing noise. Participants also commented that the Project would affect local traffic volumes and potentially air quality and noise, in environmental justice neighborhoods, including on the Lower East Side in the Manhattan CBD and in the South Bronx outside the Manhattan CBD. **Section 17.6.1** of this chapter presents the results of the detailed analysis the Project Sponsors conducted of these issues (see **Sections 17.6.1.1, 17.6.1.2, 17.6.1.3, and 17.6.1.4**).

In response to comments during the fall 2021 outreach, the Project Sponsors expanded the analyses of traffic, air quality, and noise to include additional locations in environmental justice neighborhoods where concerns were raised, more detailed evaluation of changes in truck volumes on highways and local roadways, and more detailed evaluation of air pollutants of concern in the air quality evaluation. In addition, the Project Sponsors added a tolling scenario for analysis throughout the EA, Tolling Scenario G, to evaluate opportunities for reducing truck diversions that would result from the CBD Tolling Alternative.

[Following publication of the EA in August 2022, in response to comments received during the public comment period on the EA and input from the Environmental Justice Technical Advisory Group, the

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Review traffic patterns and the changes in congestion, air emissions, and noise.

17.5 EXISTING MINORITY AND LOW-INCOME POPULATIONS IN THE ENVIRONMENTAL JUSTICE STUDY AREAS

17.5.1 Defining Minority and Low-Income Populations

USDOT Order 5610.2C and FHWA Order 6640.23A define minority and low-income populations as follows:

- **1** **Minority:** A person who is Black or African American (not Hispanic), American Indian *[or]* Alaskan Native, Asian American, Native Hawaiian or other Pacific Islander, and Hispanic or Latino. This analysis also includes people who identified themselves as “some other race” or “two or more races” in the U.S. Census. In addition, *minority population* is any readily identifiable groups of minority persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons who will be similarly affected by a proposed FHWA program, policy, or activity.
- **Low-Income:** A person whose household income is at or below the U.S. Department of Health and Human Services poverty guidelines.⁹ In addition, a *low-income population* is any readily identifiable groups of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons who will be similarly affected by a proposed FHWA program, policy, or activity.

For the analysis of the local (neighborhood) study area, the following approach was used to identify minority and low-income populations (for more information, see **Appendix 17, “Environmental Justice”**):

- **2** Census tracts in the local study area were considered to be **minority** when either: (1) at least 50 percent of the census tract’s population identifies as minority; or (2) the percentage of population identifying as minority in the census *[tract]* exceeds the share of minority population in the county where that census tract is located.
- Census tracts in the local study area were considered to be **low-income** when the percentage of individuals with household incomes up to twice the Federal poverty threshold in the census tract was higher than that percentage for the 28-county region.¹⁰ The Project Sponsors in consultation with FHWA identified this income threshold, rather than using the lower Federal poverty threshold, to reflect local conditions and the cost of living in the study area (see **Appendix 17, “Environmental Justice,”** for more information).

For evaluation of the potential effects on people who travel throughout the region (i.e., commuters, travelers, or individuals in specific industries, businesses, or other groups that could be affected by increased cost associated with accessing the Manhattan CBD), the following approach was used to identify minority and low-income populations:

⁹ The analysis for this Project used information related to the annual poverty threshold established by the U.S. Census Bureau rather than the U.S. Department of Health and Human Services poverty guidelines. The Health and Human Services poverty guidelines are a simplified version of those Federal poverty thresholds that are used for administrative purposes—for instance, determining financial eligibility for certain Federal programs.

¹⁰ For this analysis, the Project Sponsors used data from the U.S. Census on the number of individuals in each census tract with household incomes up to 1.99 times the Federal poverty threshold. For simplicity, this chapter refers to that information as twice the Federal poverty threshold.

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Over 30% of BPC is minority according to various sources on population metrics. Further, why is New York not treated as one, particularly given the overall population demographics, the small area, and density?



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Why is not New York County treated as one area given the area and density of population? For the most part, the analysis treats counties outside of New York County as one for purposes of the applicable analysis.

- **Minority** populations who commute to work in the Manhattan CBD were identified based on census information available in the CTPP.
- **Low-income** populations who commute to work in the Manhattan CBD were identified based on information available in the CTPP related to worker flows by mode and household income. A household income threshold of \$50,000 was used to identify low-income drivers, since no data are available on workers who have household incomes of up to twice the poverty threshold. This is approximately equivalent to, although higher than, the low-income threshold of twice the Federal poverty threshold for a three-person family, consistent with the average household size for the Project study area of 2.8 people per household.¹¹

17.5.2 Environmental Justice Populations in the Local Study Area

1 The local study area includes the Manhattan CBD and the surrounding area that is most likely to be affected by changes in traffic volumes resulting from the CBD Tolling Alternative.

Approximately 617,00 residents live in the Manhattan CBD, with a wide range of income levels and racial and ethnic characteristics. The Manhattan CBD includes a number of different neighborhoods, which the New York City Department of City Planning combines together into neighborhood groupings for analysis purposes. These are illustrated in **Figure 17-2**. As shown in **Figure 17-2**, the Manhattan CBD includes areas with environmental justice census tracts, generally located in the Chinatown, Lower East Side, and Clinton neighborhoods, with additional tracts in other neighborhoods.

Outside the Manhattan CBD, the rest of the local study area includes more than 300 different neighborhoods and local communities. **Figure 17-3** provides an overview of the local study area and **Appendix 17, “Environmental Justice,”** provides additional, more detailed maps and information for each of these neighborhoods. As **Figure 17-3** illustrates, most census tracts in the area immediately surrounding the Manhattan CBD are environmental justice census tracts. **Table 17-1** provides a summary of the population characteristics of the local study area.

17.5.3 Environmental Justice Populations in the Regional Study Area

17.5.3.1 Regional Overview

Minority and low-income populations live throughout the regional study area, which consists of 28 counties around and including New York City. As shown in **Figure 17-4**, environmental justice census tracts are predominantly located close to New York City in the area that constitutes the local study area. **Table 17-2** shows the population characteristics of the regional study area.

¹¹ The average household size is 2.8 people per household in New York City, the 10-county study area, and the 28-county regional study area.

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Manhattan and the Bronx are dense. Therefore, the environmental impact should have expanded beyond just the areas immediately surrounding the CBD, particularly other areas that already congested such as the Bronx. Please clarify.

Table 17-1. Population Characteristics of the Local Study Area

GEOGRAPHIC AREA	TOTAL POPULATION	ASIAN (NON-HISPANIC)	BLACK (NON-HISPANIC)	OTHER (NON-HISPANIC)	HISPANIC OR LATINO	WHITE (NON-HISPANIC)	% MINORITY	% LOW-INCOME
Bronx County	1,435,068	3.6%	29.2%	2.0%	56.0%	9.1%	90.9%	51.0%
Kings County (Brooklyn)	2,589,974	11.8%	30.0%	2.8%	19.0%	36.4%	63.6%	39.1%
1 New York County (Manhattan)	1,631,993	12.1%	12.5%	2.7%	25.8%	46.9%	53.1%	28.9%
Queens County	2,287,388	25.3%	17.2%	4.4%	28.0%	25.0%	75.0%	31.0%
Richmond County (Staten Island)	474,893	9.2%	9.4%	2.0%	18.4%	61.0%	39.0%	23.0%
Nassau County	1,356,509	9.6%	11.1%	2.4%	16.9%	60.0%	40.0%	14.5%
Bergen County	930,390	16.2%	5.3%	2.0%	19.9%	56.6%	43.4%	16.1%
Essex County	795,404	5.3%	38.4%	2.7%	23.0%	30.5%	69.5%	33.3%
Hudson County	670,046	15.0%	10.5%	2.6%	43.1%	28.8%	71.2%	32.8%
Union County	554,033	5.0%	20.1%	3.8%	31.6%	39.5%	60.5%	24.8%
TOTAL	12,725,698	1,628,214 (12.8%)	2,525,656 (19.8%)	365,709 (2.9%)	3,509,208 (27.6%)	4,696,911 (36.9%)	63.1%	31.4%

Source: U.S. Census Bureau, ACS 2015–2019 5-Year Estimates.

Notes:

1. Percentages may not add to 100 percent due to rounding.
2. Other includes the census categories of American Indian and Alaska Native, Native Hawaiian or other Pacific Islander, Some Other Race, and Two or More Races. People of any race may also be Hispanic.
3. Total minority percentage consists of all population other than non-Hispanic White people.
4. Low-income population is population with annual household incomes of up to twice (1.99 times) the Federal poverty threshold.

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All of New York County should be analyzed not just CBD due to the small area and density of population.

Table 17-2. Population Characteristics of the Regional Study Area

GEOGRAPHIC AREA	TOTAL POPULATION	ASIAN (NON-HISPANIC)	BLACK (NON-HISPANIC)	OTHER (NON-HISPANIC)	HISPANIC OR LATINO	WHITE (NON-HISPANIC)	% MINORITY	% LOW-INCOME
New York City	8,419,316	1,176,762 (14.0%)	1,837,549 (21.8%)	254,857 (3.0%)	2,447,862 (29.1%)	2,702,286 (32.1%)	67.9%	36.0%
Bronx County	1,435,068	3.6%	29.2%	2.0%	56.0%	9.1%	90.9%	51.0%
Kings County (Brooklyn)	2,589,974	11.8%	30.0%	2.8%	19.0%	36.4%	63.6%	39.1%
1 New York County (Manhattan)	1,631,993	12.1%	12.5%	2.7%	25.8%	46.9%	53.1%	28.9%
Queens County	2,287,388	25.3%	17.2%	4.4%	28.0%	25.0%	75.0%	31.0%
Richmond County (Staten Island)	474,893	9.2%	9.4%	2.0%	18.4%	61.0%	39.0%	23.0%
Long Island Counties	2,840,341	187,841 (6.6%)	258,946 (9.1%)	61,423 (2.2%)	515,858 (18.2%)	1,816,273 (63.9%)	36.1%	15.6%
Nassau County	1,356,509	9.6%	11.1%	2.4%	16.9%	60.0%	40.0%	14.5%
Suffolk County	1,483,832	3.9%	7.3%	2.0%	19.3%	67.6%	32.4%	16.7%
New York Counties North of New York City	2,065,938	98,893 (4.8%)	236,310 (11.4%)	50,928 (2.5%)	424,962 (20.6%)	1,254,845 (60.7%)	39.3%	22.3%
Dutchess County	293,754	3.5%	9.8%	3.0%	12.2%	71.5%	28.5%	21.4%
Orange County	380,085	2.7%	10.0%	2.6%	20.5%	64.2%	35.8%	25.8%
Putnam County	98,787	2.0%	2.7%	1.5%	15.0%	78.7%	21.3%	12.7%
Rockland County	324,422	5.9%	11.3%	2.0%	17.7%	63.1%	36.9%	28.3%
Westchester County	968,890	5.9%	13.4%	2.5%	24.7%	53.5%	46.5%	20.2%
New Jersey Counties	7,060,811	749,331 (10.6%)	856,041 (12.1%)	155,823 (2.2%)	1,546,228 (21.9%)	3,753,388 (53.2%)	46.8%	22.5%
Bergen County	930,390	16.2%	5.3%	2.0%	19.9%	56.6%	43.4%	16.1%
Essex County	795,404	5.3%	38.4%	2.7%	23.0%	30.5%	69.5%	33.3%
Hudson County	670,046	15.0%	10.5%	2.6%	43.1%	28.8%	71.2%	32.8%
Hunterdon County	124,823	4.1%	2.4%	1.4%	6.5%	85.5%	14.5%	10.7%
Mercer County	367,922	11.1%	19.8%	1.8%	17.5%	49.7%	50.3%	25.0%
Middlesex County	825,920	23.9%	9.5%	2.3%	21.2%	43.1%	56.9%	19.4%
Monmouth County	621,659	5.4%	6.7%	1.9%	10.8%	75.2%	24.8%	16.3%
Morris County	493,379	10.3%	3.2%	1.9%	13.3%	71.4%	28.6%	12.4%

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The percentage of BPC residents that identify as Asian is greater than 12.1% (representing those identifying as Asians of the overall NY County population).

Table 17-4. Vehicle Access in the Regional Study Area

GEOGRAPHIC AREAS	TOTAL HOUSEHOLDS	HOUSEHOLDS WITH NO ACCESS TO A VEHICLE	PERCENTAGE OF HOUSEHOLDS WITH NO ACCESS TO A VEHICLE
New York City	3,167,034	1,730,704	54.6%
Bronx County	503,829	297,663	59.1%
Kings County (Brooklyn)	958,567	534,368	55.8%
New York County (Manhattan)	759,460	584,710	77.0%
Queens County	778,932	286,141	36.7%
Richmond County (Staten Island)	166,246	27,822	16.7%
Long Island Counties	936,278	56,401	6.0%
New York Counties North of New York City	721,013	84,061	11.7%
New Jersey Counties	2,558,509	314,320	12.3%
Connecticut Counties	670,761	64,645	9.6%
TOTAL	8,053,595	2,250,131	27.9%

Source: U.S. Census Bureau, ACS 2015–2019 5-Year Estimates.

Note:

Long Island counties include Nassau and Suffolk.

New York counties north of New York City include Dutchess, Orange, Putnam, Rockland, and Westchester.

New Jersey counties include Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, and Warren.

Connecticut counties include Fairfield and New Haven.

Residents of New York City in particular are most likely to use transit¹² to travel to work in the Manhattan CBD. With a dense network of public transportation options throughout New York City and 24-hour service throughout that network, CTPP data indicate that 88 percent of the New York City residents who travel to the Manhattan CBD for work from outside the Manhattan CBD use public transportation for their commute. All of New York City is within one-half mile of a commuter rail station, subway station, or bus stop except one small area in southern Queens, a gated community called Breezy Point (see **Figure 5A-3 in Subchapter 5A**).¹³ Most of New York City is also within one-half mile of the faster public transportation modes available—commuter rail, subway, or Select Bus Service (SBS), New York City’s growing bus rapid transit system.¹³

Approximately 440,000 people (or about 5.2 percent of the city’s 8.4 million residents) live in areas of New York City that are more than one-half mile from these faster public transportation modes (commuter rail, subway, or express bus or SBS service), and approximately 33,900 of them commute to the Manhattan CBD. Approximately 5,200 (15 percent) of these commuters to the Manhattan CBD travel by car.

¹² Unless otherwise noted, the terms “public transportation” and “transit” are used interchangeably throughout this chapter.

¹³ One-half mile represents an approximately 10- to 15-minute walk for an average pedestrian, and therefore indicates the availability of these transportation services.

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Please advise if BPC was considered in this analysis.

17.5.3.3 Minority Commuters to Manhattan CBD from the Regional Study Area

More than half of the population of the regional study area (52 percent) identifies as minority, as shown in Table 17-2 earlier in this chapter. The percentage of population who identify as minority populations is highest in New York City (68 percent), where all but Richmond County (Staten Island) are more than 50 percent minority and the Bronx (91 percent) and Queens (75 percent) have the highest proportions. In New Jersey, the counties closest to New York City also have populations with more than half identifying as minority (in particular, Essex County, with 70 percent; Hudson County, with 71 percent, Middlesex, with 57 percent; Passaic, with 59 percent; and Union, with 61 percent).

Consequently, many of the people who commute to work in the Manhattan CBD identify as minority. Table 17-5 provides information on the number of minority commuters to the Manhattan CBD from the different origins in the regional study area. A total of 715,195 of the region's commuters to the Manhattan CBD (47.2 percent) identify as minority populations. Of these commuters, over three-quarters (76.9 percent) are from New York City, 14.5 percent are from New Jersey, 0.8 percent are from Connecticut, and 7.8 percent are from the other New York counties in the study area.

Table 17-5. Origins for All Commuters and Minority Commuters to the Manhattan CBD (All Modes)

ORIGIN (PLACE OF RESIDENCE)	ALL COMMUTERS	MINORITY COMMUTERS	% OF COMMUTERS WHO ARE MINORITY
New York City	1,074,244	549,993	51.2%
Bronx County	99,929	89,406	89.5%
Kings County (Brooklyn)	277,884	142,988	51.5%
New York County (Manhattan)	454,981	163,832	36.0%
Queens County	210,661	143,214	68.0%
Richmond County (Staten Island)	30,789	10,553	34.3%
Long Island Counties	96,458	28,897	30.0%
New York Counties North of New York City	89,410	26,962	30.2%
New Jersey Counties	226,300	103,685	45.8%
Connecticut Counties	27,697	5,658	20.4%
TOTAL	1,514,109	715,195	47.2%

Source: U.S. Census Bureau. CTPP, 2012–2016 Estimate. Percentages may not sum to 100 percent due to rounding.

Notes:

- Numbers from different tables in the CTPP (e.g., total commuters to the Manhattan CBD) may not be identical due to rounding and different methods of estimating inherent in the CTPP.
- Long Island counties include Nassau and Suffolk.
New York counties north of New York City include Dutchess, Orange, Putnam, Rockland, and Westchester.
New Jersey counties include Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, and Warren.
Connecticut counties include Fairfield and New Haven.

Table 17-6 provides information on the mode of transportation to work for all workers and for minority workers in the Manhattan CBD. As shown in Table 17-6, approximately 10 percent of the minority commuters to the Manhattan CBD, or close to 73,000 people, use cars to make their trip. This is similar to the overall population of all commuters, of whom approximately 10.2 percent use cars.

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Why doesn't all of NY County treated as one? Why do the neighborhoods need to be broken down given the density of the population and small physical area.

Table 17-6. **Travel Mode to Manhattan CBD for All Workers and Minority Workers**

COMMUTERS TO MANHATTAN CBD	COMMUTE BY AUTO	COMMUTE BY TRANSIT	COMMUTE BY BICYCLE OR WALK	COMMUTE BY OTHER MODE
All workers	157,852 (10.2%)	1,213,793 (78.1%)	128,638 (8.3%)	53,530 (3.4%)
Minority workers	72,936 (10.0%)	602,493 (82.4%)	42,080 (5.8%)	13,425 (1.8%)

Source: U.S. Census Bureau. CTPP, 2012–2016 Estimate. Percentages may not sum to 100 percent due to rounding.

Notes:

1. Numbers from different tables in the CTPP (e.g., total commuters to the Manhattan CBD) may not be identical due to rounding and different methods of estimating inherent in the CTPP. Total workers shown in this table are those for whom means of transportation is available.
2. Commute by other mode includes taxicab, motorcycle, other modes, and people who work at home.

Table 17-7 and Figure 17-5 provide more specific information on the origins of minority auto commuters to the Manhattan CBD, based on the CTPP. As shown, more than half of the minority auto commuters come from locations in New York City, including more than 20 percent from Queens. About one-quarter of the minority auto commuters come from locations in New Jersey.

Table 17-7. **Estimated Origins of Minority Auto Commuters to the Manhattan CBD**

ORIGIN (PLACE OF RESIDENCE)	MINORITY AUTO COMMUTERS TO MANHATTAN CBD	PERCENTAGE OF STUDY AREA TOTAL
New York City	41,505	56.9%
Bronx County	8,125	11.1%
Kings County (Brooklyn)	9,528	13.1%
New York County (Manhattan)	5,143	7.1%
Queens County	16,410	22.5%
Richmond County (Staten Island)	2,299	3.2%
Long Island Counties	6,740	9.2%
New York Counties North of New York City	6,756	9.3%
New Jersey Counties	17,070	23.4%
Connecticut Counties	864	1.2%
TOTAL	72,936	100.0%

Source: U.S. Census Bureau, CTPP, 2012–2016 Estimate.

Estimates of origins for minority commuters based on analysis by AKRF, Inc. for this EA.

For more information on the methodology for this estimate, see Appendix 17, “Environmental Justice.”

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This data is outdated and does not take into consideration minorities who may be avoiding bicycle transportation in response to hate crime activity in public spaces and public transportation. Sociological study needs to be assessed for the needs of minorities and other minority classes. There isn't a full sociological assessment provided to take into consideration transit habits in a post-Covid environment.

- Increased traffic congestion on highway segments (**Section 17.6.1.1**)
- Changes in traffic conditions at local intersections (**Section 17.6.1.2**)
- Traffic-related effects on air quality (**Section 17.6.1.3**)
- Traffic-related effects on noise (**Section 17.6.1.4**)
- Increases to transit ridership (**Section 17.6.1.5**)
- Changes in passenger flows at transit stations (**Section 17.6.1.6**)
- Changes in pedestrian circulation on sidewalks near transit hubs (**Section 17.6.1.7**)
- Potential for indirect displacement (**Section 17.6.1.8**)
- *[Potential effects on the costs of goods (Section 17.6.1.9)]*

17.6.1.1 Increased Traffic Congestion on Highway Segments

During the targeted environmental justice public outreach for the Project in fall 2021, some commenters voiced concerns about the potential for increases in traffic on regional highways and how that might affect nearby environmental justice neighborhoods. **This section describes the Project’s potential effects on traffic operations on highways in and around the Manhattan CBD. Section 17.6.1.3 presents the potential air quality effects of these traffic changes and Section 17.6.1.4 describes the conclusions of the noise analysis.**

In response to comments during the fall 2021 outreach, the traffic analyses for the EA were expanded to include additional locations in environmental justice neighborhoods where concerns were raised and more detailed evaluation of changes in truck volumes on highways and local roadways. In addition, the Project Sponsors added a tolling scenario for analysis throughout the EA, Tolling Scenario G, to evaluate opportunities for reducing truck diversions that would result from the CBD Tolling Alternative.

As described in **Subchapter 4B, “Transportation: Highways and Local Intersections,”** detailed modeling was conducted for 10 highway segments near the Manhattan CBD that provide access to the Manhattan CBD or are circumferential routes around the Manhattan CBD that drivers could use to avoid the toll. These are the locations most likely to experience an increase in traffic due to a shift in traffic from currently toll-free facilities to currently tolled facilities and diversion of through Manhattan CBD traffic to circumferential routes. Several of these highway corridors were raised as a concern during early public outreach for the Project, given their proximity to neighborhoods with environmental justice populations.

The analysis presented in **Subchapter 4B, “Transportation: Highways and Local Intersections,”** concludes that with implementation of the CBD Tolling Alternative, traffic patterns would shift throughout the study area because of drivers who divert to avoid the new toll. The level of diversions would depend on the toll value and potential crossing credits or exemptions.

Tolling Scenario D—with the highest crossing credits, exemptions, and discounts—was determined to be representative of the tolling scenarios with the highest potential for diversions and increases in traffic at certain Manhattan CBD crossings, Manhattan CBD highway approaches, intersections within and outside of the Manhattan CBD, and circumferential routes bypassing the Manhattan CBD. Based on the results of the modeling, Tolling Scenario D would result in increased traffic congestion on 8 of those 10 highway segments, resulting in increased delays and queues in peak hours. The effects of Tolling Scenarios E and F would be similar. The projected increases in delays are discussed further in **Subchapter 4B, “Transportation:**

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PROCESS: Why does the analysis break down Manhattan but view other counties as one? This is not fair to Manhattan residents outside of the CBD as well as the Bronx, which already has severe congestion.

SOLUTION: Study the impact of the congestion of the exempted thoroughfares and the change in traffic patterns on Manhattan as a whole as well as the Bronx.

Highways and Local Intersections.” On 3 of the 10 segments analyzed in detail, the increases in delay and queue length due to the Project would constitute adverse effects on traffic conditions according to New York State’s State Environmental Quality Review Act (SEQRA) impact criteria, as follows:

- Approaches to westbound George Washington Bridge on the Trans-Manhattan Expressway (I-95) between the Harlem River and the bridge during the midday peak hour
- The westbound Long Island Expressway (I-495) near the Queens-Midtown Tunnel during the midday peak hours
- The southbound and northbound Franklin D. Roosevelt (FDR) Drive between East 10th Street and the Brooklyn Bridge during the PM peak hour

With implementation of the CBD Tolling Alternative, a robust post-implementation traffic monitoring program will be implemented to identify and quantify actual traffic effects associated with the adopted tolling scenario and to inform the development of appropriate mitigation measures, if needed, including Intelligent Transportation Systems (ITS) measures, signing, motorist information, and targeted toll policy modifications. Depending on the tolling program implemented, it is possible that some residual traffic effects along certain highway segments may remain. ¹ However, given the relatively few locations where there is a potential for adverse traffic effects along highways leading to and from the Manhattan CBD and circumferential highways, the offsetting reductions in traffic volumes and improvements in travel times along routes from which traffic would divert, and the overall Project benefits in the Manhattan CBD and regionally due to a reduction in vehicular travel, the Project when viewed holistically would not have an adverse effect on traffic. Subchapter 4B, “Transportation: Highways and Local Intersections,” provides more specific information on the adverse effects and proposed mitigation.

All 10 highway segments analyzed in detail for this EA are within or adjacent to environmental justice census tracts. As shown in **Figure 17-3**, much of the area around the Manhattan CBD consists of neighborhoods with environmental justice census tracts. However, as major regional highways, these highway segments predominantly serve regional and interstate traffic rather than local traffic.

17.6.1.2 Changes in Traffic Conditions at Local Intersections

Subchapter 4B, “Transportation: Highways and Local Intersections,” presents the results of a detailed analysis of traffic conditions in and near the Manhattan CBD. To evaluate the potential localized traffic effects of the Project, multiple study areas were defined based on the key entry points to the Manhattan CBD, including along the 60th Street Manhattan CBD boundary and on either side of the bridges and tunnels that provide access to and from the Manhattan CBD. These local study areas are the intersections most likely to have increases in traffic, based on the regional transportation modeling for the Project. A total of 102 intersections were evaluated (see **Figure 17-6**).

² Many of these intersections were identified through the public outreach process to reflect locations where communities expressed concerns regarding the Project’s potential to affect traffic conditions there. Of these 102 intersections, almost half are in environmental justice neighborhoods, reflecting the concerns that were expressed during public outreach.

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This appears to be an arbitrary conclusion. The study does not appear to take into account the impact of the exempted thoroughfares and traffic diversion on the communities adjacent to the exempted thoroughfares. Please clarify.



Number: 2 Author: BPC Resident Subject: Highlight Date: 6/12/23, 11:49:47 AM

Why weren't all neighborhoods examined, particularly with respect of the impact of congestion on exempted thoroughfares?

The traffic analysis concluded that shifts in traffic patterns would change conditions at some local intersections within and near the Manhattan CBD. Of the 102 intersections analyzed (with more than 363 analyses in multiple peak hours), most intersections would have reductions in delay under all tolling scenarios. The detailed evaluation conducted for the tolling scenarios with the greatest change in traffic volumes showed that those tolling scenarios (Tolling Scenarios D, E, and F) would result in increases in average delays at four intersections that would exceed the impact threshold established for SEQRA evaluations. These delays will be mitigated through the use of signal-timing adjustments and, therefore, there would not be an adverse traffic effect at any intersection. **Subchapter 4B, “Transportation: Highways and Local Intersections,”** provides more information on the proposed mitigation at each potentially affected location.

Consequently, the changes in traffic conditions at local intersections would not result in adverse effects on environmental justice populations.

17.6.1.3 Traffic-Related Effects on Air Quality

During early public outreach for the Project, participants in the environmental justice outreach sessions raised concerns that the CBD Tolling Alternative would divert traffic to circumferential highways around the Manhattan CBD and that these additional vehicles would adversely affect the nearby neighborhoods by degrading air quality. Other participants were concerned that changes in traffic at local intersections, including on the Lower East Side in the Manhattan CBD and in the South Bronx outside the Manhattan CBD, would adversely affect air quality nearby.

Air pollution is a concern because of its associated adverse effects on human health. This is a particular concern for environmental justice populations, who often live in areas already considered overburdened by pollution. Exhaust from trucks, which has a higher level of particulate matter (PM) than automobile exhaust, and has been associated with adverse health effects like cardiovascular and respiratory diseases, is a particular concern for many environmental justice populations (for more information on health effects of air pollutants, see **Appendix 10, “Air Quality”**). Members of the Environmental Justice Technical Advisory Group for the Project requested additional information on the Project’s potential to increase the number of trucks on highways outside the Manhattan CBD, especially on the Cross Bronx Expressway in the South Bronx.

Chapter 10, “Air Quality,” of this EA presents the results of the evaluation conducted of the Project’s potential effects on air quality. The analysis included consideration of highway segments throughout the region and local intersections where traffic would be most likely to change as a result of the Project. In response to specific environmental justice concerns identified above, the Project Sponsors included locations on the Lower East Side, in the South Bronx, and at other locations in environmental justice neighborhoods in and near the Manhattan CBD.

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PROCESS: There doesn't appear to be a proper analysis of the impact of the exempted thoroughfares and the traffic impact. Traffic moving from the CBD to the exempted thoroughfares is not the answer to congestion.

SOLUTION: Conduct a study on the impact of traffic patterns for the exempted thoroughfares.



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Was BPC included? Was there discussion in respect of the increased congestion on the exempted thoroughfares, specifically West St with respect to BPC and other communities along West St?

The air quality analysis included evaluation of the following types of air pollutants (for more information, see **Chapter 10, “Air Quality”**):

- Pollutants regulated by the National Ambient Air Quality Standards (NAAQS): Referred to as “criteria” pollutants, these include carbon monoxide (CO); nitrogen dioxide (NO₂); ozone (O₃); PM regulated in two sizes, 2.5 microns and 10 microns (PM_{2.5} and PM₁₀); sulfur dioxide (SO₂); and lead (Pb).
- Mobile source air toxics (MSAT): These are air pollutants associated with vehicular traffic that are hazardous to human health and are also regulated by the U.S. Environmental Protection Agency (EPA).

Effects of the Project on Regional Air Quality

1 The regional analysis focused on 12 counties in New York and New Jersey. Emissions estimates were based on predicted changes in VMT, speed, and vehicle mix since the interaction of these factors affects the relative decreases and increases in each county. Some counties are predicted to show increases in pollutant emissions, while others would have decreases, as shown in **Table 17-11** (for more information, see **Chapter 10, “Air Quality”**).

Effects of the Project on Local, Neighborhood Air Quality

The analysis of the Project’s potential effect on local air quality near roadways where traffic would increase considered all 102 intersections for which traffic analyses were conducted as presented in **Subchapter 4B, “Transportation: Highways and Local Intersections”** (**Figure 17-6**). Those intersections are the locations most likely to experience increases in traffic, based on the regional transportation modeling for the Project. Of these 102 intersections, approximately half are in environmental justice neighborhoods, reflecting the concerns that were expressed during public outreach.

2 Based on the air quality analyses conducted, the level of potential change in CO and PM_{2.5}/PM₁₀ at all 102 intersections would not result in adverse effects on local air quality, based on evaluation criteria developed by NYSDOT. All locations passed the screening criteria used to identify the potential for adverse effects requiring further evaluation.

Effects of the Project on Highway Traffic Related to Diversions

To address specific concerns related to truck diversions raised during environmental justice public outreach, the air quality analysis also included specific consideration of the potential truck diversions that could occur as a result of the CBD Tolling Alternative. In addition, the Project Sponsors also evaluated a segment of the FDR Drive near the Lower East Side in Manhattan because of the potential for notable traffic diversions there. Truck traffic is not permitted on the FDR Drive, so this analysis considered the effects of automobile traffic only.

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Congestion will be distributed along the west east sides of NYC as well north of 60th Street. Why are other counties reviewed as a single entity whereas NY County is not?



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Was there an analysis of the impact of increased traffic along West St? Unlike FDR, West St has residential and office building along the road as well as schools, playgrounds, parks and a bike path. Increased congestion will be harmful to NY County.

to avoid the tolling in the Manhattan CBD. These diversions would be most pronounced at the approach to the Robert F. Kennedy Bridge in Queens, across the South Bronx and the George Washington Bridge, and into northern New Jersey. Diversions to the south would occur across the Verrazzano-Narrows Bridge and through Staten Island. Diversions would be greatest in Tolling Scenarios D, E, and F, and smallest in Tolling Scenario G.

1 address concerns related to the potential effects on local air quality from those traffic diversions, the Project Sponsors conducted additional, more detailed analyses for four highway segments near environmental justice neighborhoods. These segments were selected based on the potential increases in diesel-truck traffic that might occur due to the Project, community concern, and/or existing high volumes of Annual Average Daily Traffic. The following locations were evaluated:

- FDR Drive at 10th Street, Manhattan, New York
- I-95 west of the George Washington Bridge, Fort Lee, New Jersey
- Cross Bronx Expressway (I-95) at Macombs Road, Bronx, New York
- Robert F. Kennedy Bridge approach, Queens, New York

For the FDR Drive, where Project-related changes would be related to automobiles and no trucks are permitted, the Project Sponsors conducted additional evaluation of the potential Project-related effects on CO. For the three other highway segments, because of the concern about increases in truck traffic, the Project team conducted detailed microscale PM analyses at these locations. The analyses for all four highway segments concluded that the CBD Tolling Alternative would not result in adverse effects on air quality at any of those locations. **Chapter 10, “Air Quality,”** provides more information on these analyses.

Changes in Traffic Volumes and VMT in Environmental Justice Neighborhoods

2 The air quality analyses presented in **Chapter 10** conclude that no adverse effects to air quality would occur at local intersections or along highway segments due to the CBD Tolling Alternative in any of the tolling scenarios. This section compares the changes in traffic volumes, and particularly VMT, that would occur in environmental justice neighborhoods to those that would occur in non-environmental justice neighborhoods. **Subchapter 4A, “Transportation: Regional Transportation Effects and Modeling,”** provides more detailed information on where increases and decreases in traffic volumes would occur due to diversions, as well as a comparison of Project-related changes in VMT in environmental justice communities vs. non-environmental justice communities.

Tolling Scenarios A, B, C, and G, with the lowest level of discounts, exemptions, and/or crossing credits, would reduce the overall traffic volumes entering and leaving the Manhattan CBD with the least potential effect on travel patterns and diversions. However, VMT would increase slightly in Staten Island and the Bronx due to drivers to and from New Jersey diverting around the Manhattan CBD to avoid paying the CBD toll. Tolling Scenarios D, E, and F, with higher discounts, exemptions and/or crossing credits would create the highest overall reduction in traffic entering and leaving the Manhattan CBD, but with higher potential changes in travel patterns and diversions to several highways.

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First, NY County should be treated as one for environmental justice. Second, BPC and West St was not part of the analysis. Given that abuts residential, office, parks, schools, playgrounds, and a bike path, there should be some consideration given to the impact of it being an exempted thoroughfare.



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It appears that the analysis was limited to a few intersections versus looking at all of Manhattan. Given the density of Manhattan, the analysis should be broader and not on intersections alone.

As shown in Table 17-13, certain areas in the Bronx, notably Hunts Point and High Bridge, have many census tracts with high pre-existing burdens. Though the increase in traffic due to the Project at some of these locations would be more modest (e.g., along the Cross Bronx Expressway), when combined with the pre-existing burdens, these areas suggest a high priority for place-based mitigation measures. Other locations, particularly East Harlem, do not have a large number of tracts with pre-existing pollutant or chronic disease burdens, but do have a larger Project-related increase in truck traffic and therefore also merit place-based mitigation measures. Locations with neither high pre-existing burdens, nor large increases in truck traffic, that may experience adverse effects from Project-related truck diversions will be addressed more broadly through regional mitigation.

Similar modeling was performed for non-truck traffic proximity changes resulting from the Project. In this case, 35 environmental justice communities with at least one census tract demonstrating a pre-existing air pollutant burden or chronic disease burden would potentially experience a decrease in highway non-truck traffic proximity. However, 33 communities with these same pre-existing air pollutant or chronic disease burdens could experience an increase in non-truck traffic proximity. All but 11 of these communities were also identified during the analysis of truck traffic. The results from this analysis and concerns raised by environmental justice communities drew particular attention to a projected increase in traffic on the FDR Drive adjacent to communities in Lower Manhattan and the Lower East Side.

The Project Sponsors have committed to a package of regional and place-based measures to mitigate these potential adverse effects on environmental justice populations, regardless of the tolling structure eventually adopted, which is discussed in Section 17.7 of this chapter.]

17.6.1.4 Traffic-Related Effects on Noise

Participants in the environmental justice outreach sessions in fall 2021 commented that changes in traffic conditions due to the CBD Tolling Alternative would adversely affect noise levels in nearby environmental justice neighborhoods. The EA includes an analysis of the potential for increased noise levels resulting from changes in traffic conditions with the CBD Tolling Alternative in **Chapter 12, “Noise.”**

The noise assessment was conducted for locations where traffic analysis was performed, where the results of the traffic studies indicated the potential for changes in noise levels to occur as a result of the Project. The assessment was completed for AM, midday, PM, and late-night peak periods at the same 102 local intersections for which detailed traffic analyses were conducted (**Figure 17-6**). Those intersections are the locations most likely to have increases in traffic, based on the regional transportation modeling for the Project. Of these 102 intersections, approximately half are in environmental justice neighborhoods, reflecting the concerns that were expressed during public outreach.

As described in **Chapter 12, “Noise,”** the analysis found that projected noise-level changes versus the No Action Alternative on all roadways evaluated would be below 3 dB(A),¹⁸ a level that is barely perceptible to

¹⁸ The noise analysis considers noise levels in dB(A), or A-weighted decibels, a unit of sound that accounts for those frequencies most audible to the human hearing range. Generally, the average human is unable to perceive noise-level changes until the changes measure more than 3 dB(A) and can readily perceive changes of 5 dB(A) or more (for more information on noise levels and human perception, see **Chapter 12, “Noise.”**).

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Was BPC part of this analysis? There needs to be further diligence on the noise increase.

most listeners. At locations near bridge and tunnel crossings, the maximum predicted noise level increase of 2.9 dB(A), which was predicted in Manhattan adjacent to the Queens-Midtown Tunnel in Tolling Scenario D, would not be perceptible. Similarly, the maximum predicted noise level on local streets where traffic would increase, an increase of 2.5 dB(A) at Trinity Place and Edgar Street in Lower Manhattan, would not be perceptible. Consequently, with the CBD Tolling Alternative, ambient noise levels would not be perceptibly different from those without the Project. Noise-level changes at approximately 90 percent of the evaluated roadways would range from -1 dB(A) to +1 dB(A), and less than 1 percent of the roadways evaluated would show an increase between 1 dB(A) and 2 dB(A).

As a result, the CBD Tolling Alternative would result in no adverse effects on ambient noise levels related to traffic changes with the CBD Tolling Alternative.

17.6.1.5 Increases to Transit Ridership

Some participants in the fall 2021 public outreach related to environmental justice raised concerns that the Project has the potential to overburden local bus service as people shift from automobile to transit to avoid the toll. The EA includes a detailed evaluation of the Project's effects on transit ridership in **Subchapter 4C, "Transportation: Transit."**

With all tolling scenarios for the CBD Tolling Alternative, some people who currently drive to and from the Manhattan CBD would shift to using transit instead. Overall, ridership on the extensive public transit system linking the Manhattan CBD with the surrounding region would increase by 1 to 2 percent relative to the No Action Alternative.

The region's transit users, including environmental justice populations, would experience increases in ridership on transit vehicles and at transit stations. Analysis presented in **Subchapter 4C, "Transportation: Transit,"** shows that there is sufficient capacity throughout the system, including commuter rail, Port Authority Trans-Hudson (PATH) rail, subway, and bus, to accommodate this increase in passengers.

In early public outreach, some participants expressed concerns regarding increases in bus ridership that could result from Project implementation. Commenters asked if additional buses would be needed to account for ridership increases. Based on the line-haul capacity analysis results presented in **Subchapter 4C,** which examined bus ridership at the point where the route would be the most crowded, no buses would cross the threshold for requiring detailed line-haul analysis; therefore, no adverse effects on bus lines are projected. This means that no new buses would be required to support ridership increases as a result of implementation of the CBD Tolling Alternative.

17.6.1.6 Changes in Passenger Flows at Transit Stations

The analysis in **Subchapter 4C, "Transportation: Transit,"** concludes that most transit stations throughout the regional public transportation system have adequate capacity to accommodate the projected increase in passengers that would occur as a result of the CBD Tolling Alternative, as people switch from automobile to transit to avoid the new CBD toll. However, analysis of the tolling scenarios with the greatest predicted increase in passengers at transit stations reveals that vertical circulation elements within four MTA NYCT subway stations in New York City and the PATH/NJ TRANSIT rail terminal in Hoboken, NJ, could become

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What is the analysis behind this statement? This area is congested in our experience. Please review further.

the local study area. Within the Manhattan CBD, and particularly the densely developed commercial and office corridors, and in the densely developed neighborhoods and communities in the local study area, pedestrian infrastructure elements (sidewalks, marked crosswalks, and pedestrian signals) are common.

Subchapter 4E, “Transportation: Pedestrians and Bicyclists,” examines the potential for new pedestrian trips to result in crowding at crosswalks, corners, and sidewalks near transit stations. In most cases, there is adequate capacity at corners and crosswalks and on sidewalks to absorb the additional pedestrian trips without adversely affecting pedestrian conditions there.

The analysis identified the potential for adverse effects to pedestrian flows in the Herald Square/Penn Station area (in the Manhattan CBD) on one sidewalk and two crosswalks. By repainting the crosswalks to widen the area available to legally cross the street and removing a planter on the sidewalk, the Project Sponsors will mitigate the adverse effects on pedestrian circulation at these three locations.

One of the affected locations (Seventh Avenue and West 32nd Street) is within an environmental justice census tract and the other two (Eighth Avenue between West 34th and West 35th Streets, and Sixth Avenue at West 34th Street) are adjacent to both environmental justice census tracts and non-environmental justice tracts. The Herald Square/Penn Station New York area is a major hub for transit and accommodates high volumes of pedestrians in peak and off-peak hours, and the proposed mitigation would alleviate the effects of increased pedestrian activity at the analysis locations, including effects on environmental justice populations.

¹Therefore, the change in pedestrian trips associated with the CBD Tolling Alternative would not result in adverse effects on environmental justice populations.

17.6.1.8 Potential for Indirect Displacement

During public outreach for the Project related to environmental justice, the Environmental Justice Technical Advisory Group raised concerns about the potential involuntary displacement of environmental justice populations.

Subchapter 5A, “Social Conditions: Population Characteristics and Community Cohesion,” presents an analysis of this issue that concludes that involuntary displacement would be unlikely to occur as a result of the CBD Tolling Alternative. The analysis concludes that the CBD Tolling Alternative would not result in changes in market conditions that would increase real estate values, so as to result in increased rents; the CBD Tolling Alternative would not result in an increase in the cost of goods within the Manhattan CBD; and certain residents of the Manhattan CBD would be entitled to a New York State tax credit to offset their tolls.

In terms of increased real estate values, any changes in residential patterns related to residents moving closer to transit would be broadly distributed throughout the regional study area because of the wide variety of factors that influence a household’s decision about where to live. In addition, in areas to which people might move to avoid the toll or be close to transit, the value of residential property and rents is already influenced by the existing proximity to transit. While there could be some additional value to living

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The study does not assess the impact of higher congestion along West Street near BPC or other exempted thoroughfares on bikes and pedestrians. The study should review the impact of the exempted thoroughfares, particularly on West St that has residences, offices, schools, playgrounds, parks, and a bike lane along West St.

close to transit (i.e., the value of living near a commuter station) in the future with the CBD Tolling Alternative, there is value to such proximity under existing conditions. Within the Manhattan CBD in particular, residential property values are already well established and influenced by factors such as the area's central location in New York City and its proximity to transit. While a reduction in traffic congestion could increase residential sales prices and thus could exert upward pressure on rents, this factor would not be substantial enough to markedly influence rents or residential property market conditions given the other factors already influencing New York City's residential real estate market (i.e., its central location and proximity to transit, jobs, cultural amenities, etc.).

Moreover, the substantial number of apartments in the Manhattan CBD that have protected rents (e.g., apartments under the jurisdiction of the New York City Housing Authority and apartments that are protected by New York State's rent control and rent stabilization laws) would not be subject to market-driven price increases. Furthermore, the Manhattan CBD already has the highest cost of living and highest home prices and rents in the region, and it is unlikely that many individuals would seek to move to the Manhattan CBD specifically to avoid the toll or because of a reduction in congestion. Therefore, the CBD Tolling Alternative would not substantively affect population characteristics of the Manhattan CBD or other transit hubs by attracting new residents seeking to avoid the toll.

Furthermore, the cost of new tolls with the CBD Tolling Alternative would not be likely to result in an increase in the cost of goods within the Manhattan CBD, as discussed below in **Section 17.6.1.9**.

1 addition, residents whose primary residence is inside the Manhattan CBD and whose New York adjusted gross income for the taxable year is less than \$60,000 would be entitled to a New York State tax credit equal to the aggregate amount of Manhattan CBD tolls paid during the taxable year.

2 For these reasons, the CBD Tolling Alternative would not result in adverse effects on environmental justice populations related to indirect displacement.

17.6.1.9 Potential Effects on Cost of Goods

During public outreach for the Project related to environmental justice, the Environmental Justice Technical Advisory Group raised concerns about the potential for the introduction of a new CBD toll to affect the price of price of consumer goods in the Manhattan CBD.

Chapter 6, "Economic Conditions," presents an analysis of the CBD Tolling Alternative's potential to affect the price of goods in the Manhattan CBD, including the cost at smaller businesses such as local *[market convenience stores]* and delis. That analysis describes that the new CBD toll would increase the cost of shipping to the Manhattan CBD for some shippers^[,] because of the price of the new toll^[,] but reduce it for others^[,] (because of travel time savings^[,] the potential for reduced parking fees *[(since, with fewer automobiles entering the Manhattan CBD each day, the demand for parking would be reduced and additional legal curbside parking would be available for delivery vehicles), and other potential cost savings]*). The specific change to costs *[for any particular shipper]* would vary greatly depending on the toll rate, whether there is a cap on the number of tolls per day, and the number of times a truck is detected entering or remaining in the Manhattan CBD. Businesses in the Manhattan CBD that would be more likely to be

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This exemption still requires CBD residents to pay and then seek a tax credit, which will not be as meaningful as an upfront exemption. Further, the London model should be followed where all residents receive an upfront exemption.



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The analysis should look at increased costs in CBD as indirectly displacement. Further, the areas adjacent to the exempted thoroughfares should be analyzed.

- *[1] While some environmental justice census tracts that have high pre-existing pollutant burdens or chronic disease burdens would benefit from decreases in traffic, and notably truck traffic, others may experience increases in traffic and related emissions that contribute to associated health effects as a result of the CBD Tolling Alternative and therefore would constitute a potential adverse effect on these environmental justice populations.]*
- The increased cost to drivers with the new CBD toll in all tolling scenarios would adversely affect low-income drivers who currently drive to the Manhattan CBD and do not have *[reasonable]* alternative transportation modes available.
- Tolling scenarios that would toll taxis and/or FHV drivers once or more a day (unmodified Tolling Scenarios A, D, and G; and Tolling Scenarios C and E for FHV drivers) would adversely affect taxi and/or FHV drivers in New York City, who largely identify as minority populations, as follows:
 - The cost of the new toll would adversely affect taxi and FHV drivers, who would need to pay the Manhattan CBD toll, including at the start of their workday, in tolling scenarios that toll their vehicles more than once a day.
 - The new CBD toll would reduce VMT associated with taxis and/or FHVs in Manhattan. Since the income of taxi and FHV drivers is directly related to the miles they travel with paying customers, this would reduce the income of taxi and FHV drivers and this reduction would be large enough that job losses could occur in tolling scenarios that toll their vehicles more than once a day.

In Tolling Scenarios B and F, and the modified Tolling Scenarios A, D, and G, these adverse effects would not occur.

[The Project Sponsors have committed to a package of mitigation measures to address these potential adverse effects on environmental justice populations, as described in Section 17.7 later in this chapter.]

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This analysis looks at sections of Manhattan. Given the density of Manhattan and that minorities are dispersed throughout Manhattan, the impact of increased congestion due to the proposed CBD and exempted thoroughfares should be reviewed for all Manhattan neighborhoods, including BPC that has a high Asian population in comparison to overall NYC.

[Table 17-16. Regional and Place-Based Mitigation Measures]


MITIGATION MEASURES	BENEFIT AND RESULT OF MITIGATION	5-YEAR FUNDING ¹	RELEVANT LOCATION(S)	FUNDING SOURCE	IMPLEMENTATION LEAD
Regional Mitigation					
Further reduced overnight toll	Minimize/avoid truck diversions	\$30 million	10-county environmental justice study area	CBD Tolling Program	TBTA
Expand NYC Clean Trucks Program	NOx and PM _{2.5} reductions from ~500 new clean trucks	\$20 million		CBD Tolling Program	NYCDOT
Expand NYCDOT Off-Hours Delivery Program	Safety and emissions reduction benefits resulting from reduced truck traffic during the day	\$5 million		CBD Tolling Program	NYCDOT
Place-Based Mitigation					
Toll vehicles traveling northbound on the FDR Drive that exit at East Houston Street and then travel southbound on FDR Drive	25 to 35 percent of the non-truck traffic increases on the FDR Drive could be mitigated	N/A	FDR Drive between the Brooklyn Bridge and East Houston Street	N/A	TBTA
Replacement of Transport Refrigeration Units (TRUs) at Hunts Point Produce Market	Major NOx and PM _{2.5} reductions from the replacement of up to 1,000 TRUs	\$15 million ²	Hunts Point	MTA CMAQ Program	NYCDOT
Implement Electric Truck Charging Infrastructure	NOx and PM _{2.5} reductions from electric vehicles using 35 new chargers (at seven stations)	\$20 million	After toll rates are set, a process that includes both additional analyses and community input will take place to determine specific locations	\$10 million Federal CRP + \$10 million CBD Tolling Program	NYS DOT
Install Roadside Vegetation to Improve Near-Road Air Quality	Improves near-road air quality by pollutant capture from ~4,000 trees and ~40,000 shrubs	\$10 million		CBD Tolling Program	TBTA with Relevant State and Local Agencies
Renovate Parks and Greenspace in Environmental Justice Communities	Increases overall community well-being. 2-5 park/greenspace renovations depending on size and complexity.	\$25 million		CBD Tolling Program	TBTA with Relevant State and Local Agencies
1 Install Air Filtration Units in Schools Near Highways	Removes air pollutants from classrooms. 25-40 schools depending on school size and complexity of existing HVAC system.	\$10 million		CBD Tolling Program	TBTA with Relevant State and Local Agencies
2 Establish Asthma Case Management Program and Bronx Center	Reduces hospitalizations and doctor visits, decreases days and nights with symptoms and missed school days – program expansion up to 25 schools	\$20 million		CBD Tolling Program	NYC DOHMH

Notes:


¹ An additional \$5 million has been allocated for mitigation and enhancement measures related to monitoring across other topics, along with \$47.5 million for the low-income toll discount discussed below. Enhancement measures include air quality monitoring that will expand NYC's existing monitoring network. Locations will be selected in consideration of the traffic and air quality analyses in the EA and in coordination with environmental justice stakeholders and relevant state and local agencies. This will complement the regional and place-based mitigation measures related to traffic diversions outlined here (see **Chapter 10, "Air Quality,"** for details).

² After three years, any remaining funds designated for TRU replacements may also be used for clean truck replacement vouchers through the NYC Clean Trucks Program.

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It is impossible to implement an HVAC system for local schools in Battery Park City, as the playgrounds are outdoors. There is no way to mitigate pollutants from West Street 9A - this was not taken into consideration and needs further environmental justice diligence for air pollution mitigation. We suggest further studies be conducted.

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Battery Park City residents will also need a budget to mitigate vehicle exhaust pollutant injury. We would like to request a similar program in and around the exempted thoroughfares near Battery Park City.

We would like to review a budget offered for Battery Park City residents and residents who are near the Hugh L Carey Tunnel, as well as residents near FDR and West Street/9A

The specific feasibility factors and forms of engagement vary by mitigation and include:

- *Electric Truck Charging Infrastructure: This mitigation will be implemented through the Federal Carbon Reduction Program (CRP) using funds received by NYSDOT and will therefore be limited to locations in New York. Siting considerations will include potential visual impacts, proximity to highways (to minimize travel on local roads), and the study of potential traffic and noise impacts. The NYMTC Clean Freight Corridors Study—a study developed by the metropolitan planning organization in consultation with motor carriers, utility companies, fuel infrastructure manufacturers/suppliers, truck stop operators, industrial real estate companies, and community and advocacy organizations—will be used to help identify priority locations. Such groups will be re-engaged, as warranted, along with state and local officials, to provide feedback in the course of identifying appropriate locations.*
- *Roadside Vegetation to Improve Near-Road Air Quality: The Project Sponsors will work with relevant local and state agencies to assess the availability of roadside space and the presence of existing plantings, as well as access and maintenance considerations, to identify appropriate sites near sensitive receptors (e.g., schools, day care, senior or community centers, or outdoor recreational facilities) as locations for new plantings. To align with community priorities, the Project Sponsors will engage with community stakeholders, elected officials, and the Environmental Justice Community Group.*
- *Parks and Greenspace in Environmental Justice Communities: The Project Sponsors will work with relevant state and local agencies to assess potential locations for park and greenspace investments in the affected communities, including in existing parkland where the expansion of green space, tree planting, or other upgrades is feasible. The agencies will solicit input on prioritization of locations and treatments from the Environmental Justice Community Group, local officials, and other community stakeholders.*
- **1** *Filtration Units in Schools Near Highways: The Project Sponsors will work with relevant school authorities to assess needs and analyze feasibility of upgrading existing filtration systems in schools in census tracts within 300 meters of highways where truck traffic is projected to increase. Factors will include the design and performance of existing HVAC systems, the facility's proximity to highways, and the area asthma rates, as well as scheduled capital projects. The Project Sponsors will work with relevant state and local agencies and solicit input from community stakeholders to determine locations where air filtration upgrades will be most impactful.*
- **2** *Asthma Case Management Program and Center: This mitigation will expand on the success of existing city programs operating within the five New York City counties.*
 - *Asthma Case Management Program—NYC Department of Health and Mental Hygiene (DOHMH) will conduct a needs assessment to identify schools in affected census tracts with existing high rates of asthma. Additionally, NYC DOHMH will engage with school leadership on expansion of the Asthma Care Management Program and will solicit input from the Environmental Justice Community Group, parents, and other community stakeholders on priority locations that should be prioritized and how to best reach families of children with asthma.*
 - *Asthma Center—Selection of a location in the Bronx will include consideration of asthma rates, population concentration, proximity to sensitive receptors, the location of existing facilities and*

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It's important to be provided with pertinent data due to the increase of traffic and exhaust that will be caused by the Congestion Pricing Zone. Battery Park City has already been injured by the EPA through a miscalculation of air quality post 9/11. We will need further diligence to ensure that the EPA is not further injuring a population of residents still fighting 9/11 related diseases. <https://www.theguardian.com/us-news/2016/sep/10/epa-head-wrong-911-air-safe-new-york-christine-todd-whitman>

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In Battery Park City - which the analysis is lacking - many of the schools are also residential buildings and would need accommodations for the residents residing near West Street south of Chambers. There is a high population of school aged children in Battery Park City and will need Asthma case management in our area as well.

services, accessibility via public transportation, and availability of suitable space. NYC DOHMH will work with community stakeholders to solicit input on programming and outreach strategies to ensure that the center maximizes its benefit to people with asthma.

With implementation of these mitigation measures, the CBD Tolling Program would not result in adverse effects on environmental justice populations as a result of increased truck traffic. Therefore, no disproportionately high and adverse effect would occur. Further details on these investments and how they will be implemented by the Project Sponsors are provided in Table 17-17 and Table 17-18 at the end of this chapter.]

17.7.2 Evaluation of Adverse Effect on Minority and Low-Income Drivers

The previous sections of this chapter describe that most people in the regional study area travel to and from the Manhattan CBD by public transportation using the region's robust transit network. With the CBD Tolling Alternative, most people, including minority and low-income populations, would continue to use public transportation to travel to and from the Manhattan CBD and would not be adversely affected by the new toll.

Most people who currently drive to the Manhattan CBD have alternative travel options to avoid the CBD toll. However, for some people, switching to transit is not a *[reasonable]* option because they have poor access to transit, commuting by transit is inefficient with long travel times, they have work hours during times of limited transit service, or they need access to a private automobile for their work. Individual drivers who do not have viable alternatives *[would be subject to the new CBD toll, unless otherwise exempt. For low-income drivers]*, the increased cost of travel to the Manhattan CBD due to the new toll would represent an adverse effect *[in the context of their existing income]*. The size of cost increase would depend on the tolling scenario and each driver's specific route and travel patterns.

17.7.2.1 Minority Drivers

The effect of the cost associated with the new CBD toll on minority drivers who have no *[reasonable]* alternative mode for reaching the Manhattan CBD other than private vehicle would be the same effect as experienced by the general population. This effect would not be predominantly borne by a minority population. As discussed earlier, approximately 52 percent of the region's population identifies as minority, and slightly less than half of the people who travel to the Manhattan CBD for work identify as minority. About 10 percent of the minority commuters to the Manhattan CBD, or approximately 73,000 commuters, commute by private vehicles. This is approximately 5 percent of all commuters to the Manhattan CBD. In addition, the effect on minority drivers would not be more severe or greater in magnitude for the minority population than for the general population. Consequently, the effect on minority drivers associated with the cost of the new toll would not be a disproportionately high and adverse effect.

17.7.2.2 Low-Income Drivers

The cost of the new CBD toll would not be predominantly borne by low-income drivers. As described earlier, approximately 14 percent of the commuters to the Manhattan CBD are low-income and 9 percent of the people who drive to the Manhattan CBD are low-income.

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Many Asian Minority residents surveyed in and around Battery Park City have felt unsafe due to Asian Hate Crimes spate born from post Covid environment. Studies have to be in place to determine whether car ownership of Asian minorities in New York City is protective. Vulnerable minorities have not been mentioned in terms of Asian Americans and hate crimes on public transportation. Please provide the studies for Asian Hate Crimes on streets of Manhattan below 60th Street and on subways to evaluate sociological and civil rights effect of tolling a safe transportation option.

- **Reduced-Fare Bike Share.** Citi Bike, in partnership with Healthfirst and NYCDOT, provides reduced cost membership of \$5/month (roughly one-third the typical membership) for low-income individuals 16 years and older who are residents of New York City Housing Authority facilities or receive Supplemental Nutrition Assistance Program (SNAP) benefits. *[For those who cannot bike for their entire commute, Citi Bike can serve as a “first-mile/last-mile” mode to access transit. In 2022, there were more than 15,000 people enrolled in Citi Bike’s low-fare membership program, and those enrolled took 50 percent more rides than full-priced members, a testament to its utility for low-income people.^{27]}*
- **24-Hour Public Transportation Widely Available.** As described in other chapters of this EA, New York City and the surrounding region has an extensive regional transportation network that operates seven days a week all year long. The services within New York City operate 24 hours a day.
- **E-ZPass Payment Options.** To make the convenience of E-ZPass available for as many customers as possible, TBTA offers a Pay-Per-Trip option and a Reload Card for customers without credit cards to replenish their E-ZPass. *[About 250,000 accounts, or 6 percent of all MTA E-ZPass accounts, are Pay-Per-Trip accounts. Establishing an E-ZPass account ensures customers pay the lowest applicable tolls and can qualify for resident rebates on existing facilities. For example, there are more than 200,000 transponders associated with more than 135,000 accounts enrolled in the Staten Island Resident Rebate program, which provides drivers with an effective toll rate of \$2.75 (the cost of a one-way MTA transit fare) in each direction on the Verrazzano-Narrows Bridge.^{28]}*
- *[MTA City Ticket Program. MTA established the reduced-cost, flat-fare City Ticket to encourage travel on Long Island Rail Road and Metro-North Railroad between stations within New York City. Currently, City Tickets cost \$5.00 and are good for one-way travel during off-peak hours. MTA will soon expand the City Ticket program to include peak hours with a modestly higher peak rate, to be adopted by the MTA Board. By comparison, peak hour travel tickets currently can cost as much as \$10.75 on Long Island Rail Road and \$9.75 on Metro-North Railroad. This change will make faster travel between the Manhattan CBD and neighborhoods in the Bronx, Brooklyn, and Queens more affordable, and will benefit more than 10,000 trips on an average weekday.^{29]}*

[In addition to] these [existing] programs offered or supported by the Project Sponsors, the Project Sponsors will implement the following mitigation measures [to address the potential adverse effect of the CBD Tolling Program on low-income drivers]:

- *[New in the Final EA – TBTA will ensure that for the first five years of the Project, the final tolling structure includes a discounted toll rate for low-income frequent drivers, who could include, for example, commuters to the Manhattan CBD or people who travel regularly to the CBD for medical appointments. The discounted toll rate will be in place for drivers who have either a Federal adjusted*

^[27] The Better Bike Share Partnership, “This Summer, NYC Youth Rode Citi Bike to Work.” <https://betterbikeshare.org/2022/09/27/this-summer-nyc-youth-rode-citi-bike-to-work/>]

^[28] TBTA analysis, 2022.]

^[29] Office of New York Governor Kathy Hochul. 2023. “Governor Hochul Announces Public Transit Expansions to Increase Access, Affordability and Safety.” Jan. 10, 2023. <https://www.governor.ny.gov/news/governor-hochul-announces-public-transit-expansions-increase-access-affordability-and-safety>]

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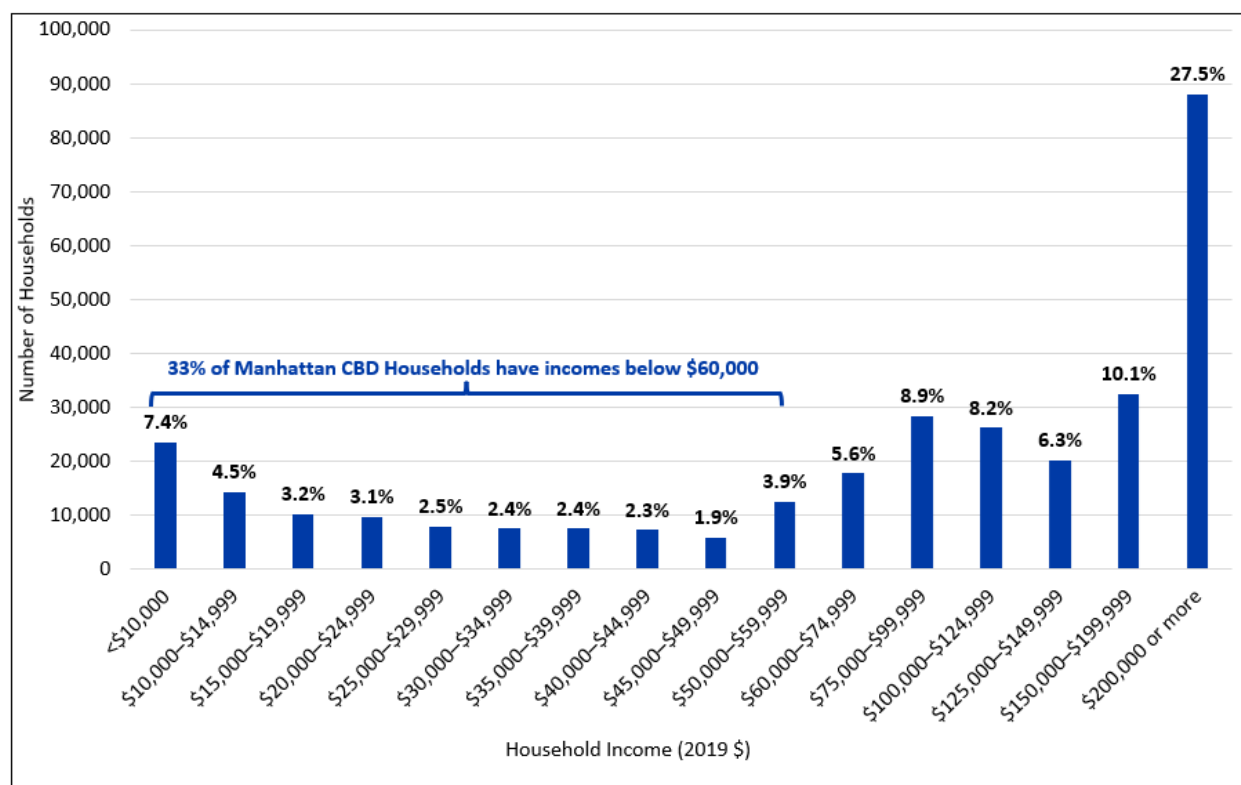
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The pedestrian safety effects of increased bicycle traffic as pertains to the bike path along West Street has not been examined in terms of safety. Air Quality safety for bicyclists riding next to vehicular traffic on West Street/9A has also not been studied as well. Will need to figure out the pedestrian safety impact for residents in Battery Park City when crossing both the Bike Path and West Street to point towards public transportation and subway stations.

reducing their overall toll expenditure. There are over 815,000 MTA E-ZPass accounts that are not linked to a credit card and require the tag deposit.^{32]}

- **Enhanced Promotion of Existing E-ZPass Payment and Plan Options:** TBTA will provide enhanced promotion of existing E-ZPass payment and plan options, including the ability for drivers to pay per trip (rather than a pre-load^[ed] balance) and refill their accounts with cash at participating retail partners.
- **Education/Outreach on Transit Discounts:** TBTA will coordinate with MTA to provide outreach and education on eligibility for existing discounted transit fare products and programs, including those for individuals 65 years of age and older, those with disabilities, and those with low incomes, about which many may not be aware.

Figure 17-[14]. **Income Distribution for Households in the Manhattan CBD**



Source: U.S. Census Bureau, ACS 2015-2019 5-Year Estimates.

- **Establishment of an Environmental Justice Community Group:** The Project Sponsors commit to establishing an Environmental Justice Community Group that *[will]* meet on a *[quarterly]* basis, with the first meeting *[taking place prior to]* Project implementation. *The Project Sponsors will continue to provide meaningful opportunities for participation and engagement related to environmental justice concerns by sharing updated data and analysis, listening to concerns and seeking feedback on the toll setting process].*

In addition, the Project Sponsors are committed to implementing the following enhancement:

^[32] TBTA analysis, 2023.]

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The data in this section needs to be re-evaluated for household income based on post-Covid, post inflation and current economic conditions.

Central Business District (CBD) Tolling Program Environmental Assessment
Chapter 17, Environmental Justice

TOPIC	RELEVANT LOCATION(S)	DESCRIPTION OF MITIGATION OR ENHANCEMENT	TIMELINE FOR PRE- AND POST-PROJECT IMPLEMENTATION DATA COLLECTION FOR SPECIFIC MEASURES	THRESHOLD FOR DETERMINING WHEN NEXT STEP(S) WILL BE IMPLEMENTED	TIMING FOR SPECIFIC MEASURES	LEAD AGENCY
Traffic diversion to certain communities already overburdened by pre-existing air pollution and chronic diseases (See Note 1) (Cont'd)	The specific census tracts that would experience increased or decreased traffic change slightly depending on the tolling scenario. The following communities could have census tracts that merit place-based mitigation: High Bridge, Morrisania and Crotona, Tremont, Hunts Point, Mott Haven, Pelham, Throgs Neck, Northeast Bronx, East Harlem, Randall's Island, Downtown Brooklyn, Fort Greene, South Williamsburg, Orange, East Orange, Newark, and Fort Lee (See Note 1).	New in Final EA: NYSDOT will coordinate to expand electric truck charging infrastructure through the Federal Carbon Reduction Program.	After toll rates are set, analyses of the adopted toll structure will be undertaken as outlined in Appendix 17D to determine where truck diversions are expected to occur. With this analysis and through continued engagement with the Environmental Justice Community Group and other stakeholders, specific locations for place-based mitigation will be determined. Data on the scope and impact of mitigation measures implemented will be collected in an ongoing manner.	N/A – No threshold required; implemented under any adopted tolling structure.	Specific locations will be determined after toll rates are set; implementation will begin within six months of start of tolling operations.	NYSDOT will lead.
		New in Final EA: The Project Sponsors will coordinate to install roadside vegetation to improve near-road air quality.			Specific locations will be determined with the affected communities after toll rates are set; implementation will begin within six months of start of tolling operations.	The Project Sponsors will coordinate with relevant state and local agencies.
		New in Final EA: The Project Sponsors will renovate parks and greenspaces.			Specific locations will be determined with the affected communities after toll rates are set; implementation timing will be determined after locations are confirmed.	The Project Sponsors will coordinate with relevant local agencies.
		1 New in Final EA: The Project Sponsors will install or upgrade air filtration units in schools.			After the toll rates are set, a site/needs assessment will take place prior to start of tolling operations; implementation timing will be determined after locations are confirmed.	The Project Sponsors will coordinate with relevant local agencies.
		New in Final EA: The Project Sponsors will work with NYC DOHMH to expand their asthma case management program and create new community-based asthma programming through a neighborhood asthma center in the Bronx.			After the toll rates are set, a site/needs assessment will take place prior to start of tolling operations; implementation timing will be determined after locations are confirmed.	The Project Sponsors will coordinate with NYC DOHMH.

Notes:

- To fund the mitigation measures for this topic the Project Sponsors have committed \$155 million over five years. The Project Sponsors commit to these measures, regardless of the tolling structure eventually adopted. The allocation of funding is described in greater detail in **Chapter 17, "Environmental Justice."** An additional \$5 million has been allocated for mitigation and enhancement measures related to monitoring across other topics, along with \$47.5 million for the low-income toll discount.
- The Project Sponsors have committed to a toll policy that will reduce the overnight toll rate at least from 12:00 a.m. to 4:00 a.m. Based on the modeling undertaken for the tolling scenarios analyzed in the EA, it is expected that this policy will avoid a substantial portion of projected truck diversions, as many of these diverted trucks were projected to occur during the overnight hours. Following the adoption of the CBD tolling structure by the TBTA Board, which will include this overnight exemption/discount, modeling of the adopted tolling structure will be undertaken to determine where truck diversions are expected to occur. Following this analysis, specific siting of place-based mitigation measures will require further coordination between the Project Sponsors, the Environmental Justice Community Group (representing the 10-county environmental justice study area), the relevant communities receiving the place-based mitigation, and relevant local and state implementing agencies.

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Battery Park City Schools along West Street and Hugh L Carey Tunnel were not considered. We are requesting further environmental studies to ensure the health and safety of the students from 0-12 Grade.

FIGURE 19-8, MAP NO.	OPEN SPACE	LOCATION	PROJECT CHANGE	SECTION 4(f) USE
47	Catherine Slip Malls	Catherine Slip between Cherry and South Streets	New tolling system equipment on the adjacent FDR Drive outside of the park boundary	No use
48	City Hall Park	Broadway, Chambers Street, Centre Street, and Park Row	New tolling infrastructure and tolling system equipment on the adjacent block outside of the park boundary	No use
49	Drumgoole Plaza	Frankfort Street and Gold Street	New tolling infrastructure and tolling system equipment on the adjacent block outside of the park boundary	No use
50	Verizon Building plaza	375 Pearl Street	New tolling infrastructure and tolling system equipment on the adjacent block outside of the park boundary	No use
51	Fishbridge Park Garden and Dog Run	Pearl Street and Dover Street	New tolling infrastructure and tolling system equipment on the adjacent block outside of the park boundary	No use
52	Peck Slip Plaza	Peck Slip and FDR Drive	New tolling system equipment on the adjacent FDR Drive outside of the park boundary	No use
53	Imagination Playground	89 South Street	New tolling system equipment on the adjacent FDR Drive outside of the park boundary	No use
54	Mannahatta Park	Wall Street between Front and South Streets	New tolling system equipment on the adjacent FDR Drive outside of the park boundary	No use
55	Financial Square plaza	South Street between Old Slip and Gouverneur Lane	New tolling system equipment on the adjacent FDR Drive outside of the park boundary	No use
56	55 Water Street plaza	55 Water Street	New tolling system equipment on the adjacent FDR Drive outside of the park boundary	No use
57	Vietnam Veterans Plaza	24 South Street	New tolling system equipment on the adjacent FDR Drive outside of the park boundary	No use
58	125 Broad Street plaza	125 Broad Street	New tolling system equipment on the adjacent FDR Drive outside of the park boundary	No use
59	Battery Park (also known as "Battery" or "The Battery")	State Street and Battery Place	New tolling infrastructure and tolling system equipment on the same and adjacent blocks outside of the park boundary	No use
60	17 Battery Place Plaza	17 Battery Place	New tolling infrastructure and tolling system equipment on the same and adjacent blocks outside of the park boundary	No use
61	Elizabeth H. Berger Plaza	Edgar Street, Greenwich Street and Trinity Place	New tolling infrastructure and tolling system equipment on the same block outside of the park boundary	No use
62	1 Battery Park City parks	Throughout Battery Park City neighborhood	New tolling system equipment on the adjacent block and the adjacent West Side Highway/Route 9A outside of the park boundary	No use

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It is unfair to toll Battery Park City Residents and also insist on creating a health and safety burden on our residents. When there was insufficient studies done to consider the impact of the population of residents that will live along the West Street 9A. We are suggesting that in the next review, to also incorporate studies on the environmental and economic impact on this neighborhood.